



REPORT

ON THE

Health of the County Borough
of Belfast,
for the Year 1931

BY

The Medical Superintendent Officer
of Health
And Colleagues.

PRINTED BY JOHN ADAMS, KING STREET.

Belfast :

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1932.



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BY

**CHARLES S. THOMSON, M.D. (Commend), Ch.B. (Distinction) University of
Glasgow, D.P.H. (Hons.), B.Hy. (Hons.) University of Durham.**

The Medical Superintendent Officer of Health for the City.

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County Borough of Belfast.

PUBLIC HEALTH COMMITTEE,
1931.

Chairman :

Alderman J. DUNLOP WILLIAMSON, M.D., J.P.

Vice-Chairman :

Alderman ROBERT PIERCE.

Aldermen :

JAMES ARCHIBALD DORAN, J.P.

HENRY MIDGLEY.

ROBERT PIERCE.

JAMES DUNLOP WILLIAMSON, M.D., J.P.

Councillors :

HUGH ARMSTRONG.

JOSEPH MAGUIRE.

CHARLES EDWARD BOURKE, J.P.

SIR CRAWFORD McCULLAGH, J.P.

THOMAS HENDERSON, M.P.

SAMUEL McLoughlin.

FRANCIS JAMES HOLLAND.

CLARKE SCOTT.

JAMES KILPATRICK.

WILLIAM JAMES WILLIAMSON.

H. P. LOWE, M.B.

STAFF.

(1st January).

SANITARY DEPARTMENT.

- 1 Chief Clerk.
- 1 Clerk, Notification of Deaths, etc.
- 2 Clerks, Infectious Disease.
- 4 Clerks of Divisions.
- 1 General Clerk.
- 3 Clerks under Maternity and Child Welfare Scheme 1 Male and 2 Female
(1 temporary).
- 3 Shorthand Writers and Typists, Females (1 temporary).
- 4 Divisional Inspectors.
- 4 Inspectors under the Sale of Food and Drugs Acts.
- 3 Inspectors under the Factory and Workshop Act (1 male and 2 females).
- 1 Inspector of Dairies and Cowsheds.
- 1 Inspector of Milkshops.
- 1 Inspector of Lodging Houses.
- 1 Port Sanitary Inspector.
- 1 Inspector in Charge of Infectious Disease Staff.
- 4 Assistant Disinfectors (2 qualified S.S.O.)
- 14 District Inspectors.
- 2 Drain Testers' Assistants.
- 11 Health Visitors.
- 1 Superintendent of Midwives.
- 1 Notice Server.
- 1 Time and Complaints Clerk.
- 5 Employed at Disinfecting Station (4 males and 1 female).
- 1 Disinfectant Storeman.

COUNTY BOROUGH OF BELFAST—1931.

Summary of Vital Statistics.

Area (Census 1926) (Exclusive of 1,723 acres of tidal water)	.. ..	14,797 acres.
Population (Census 1926)	.. ..	415,151
Number of Houses in the City	.. ..	89,774
Number of Inhabited Houses (Census 1926)	.. ..	82,638
Number of Uninhabited Houses (Census 1926)	.. ..	1,714
Number of Families or Separate Occupiers (Census 1926)	.. ..	89,724
Average Number of Persons per Family (Census 1926)	.. ..	4.58
Density	.. ..	28.1 persons to an acre.
Length of Public Streets	.. ..	Streets classified as I. II. or III. under Ministry of Home Affairs Road Classification Scheme—279 miles, 834 yards.
		Back streets and passages repairable by the Corporation and used for vehicular traffic—68 miles 1,742 yds
Rateable Value at 1st April, 1931.	.. ..	£1,886,077
Id. Rate was estimated to produce	.. ..	£7,240
Cost of Public Health Services	.. ..	£60,775
Marriages	.. ..	2,945
Marriage Rate	.. ..	7.1 per 1,000
Live Births registered	.. ..	9,470 (Reg. General)
Still Births (not registerable but notifiable)	.. ..	532
Live Births notified	.. ..	9,546
Birth Rate (Reg. General)	.. ..	22.8
Birth Rate average for the ten years, 1922-1931	.. ..	23.46
Deaths registered	.. ..	5,857
Death Rate	.. ..	14.1
Death Rate average for the ten years, 1922-1931	.. ..	14.2
Deaths of Infants under one year of age	.. ..	850 (Reg. General)
Infant Mortality Rate	.. ..	90 deaths per 1,000 births
Average for the ten years, 1922-1931	.. ..	100 deaths per 1,000 births.
Number of Women dying in, or in consequence of childbirth—		
From Sepsis	 16)	(Notifications of Deaths—Not
Other Causes	 43)	Registrar-General's figures).
Deaths from Zymotic Diseases	.. ..	292
Zymotic Death Rate	.. ..	0.7
Deaths from Measles	.. ..	133
Deaths from Whooping Cough	.. ..	32
Deaths from Diarrhoea and Enteritis under 2 years of age	.. ..	100
Deaths from Phthisis	.. ..	452
Death Rate do.	.. ..	1.1
Total Deaths from Chest Affections	.. ..	1,449
Death Rate do. do.	.. ..	3.5

PUBLIC HEALTH DEPARTMENT,
CITY HALL, BELFAST.

JUNE, 1932.

*To the Right Honourable the Lord Mayor, Aldermen and Councillors
of the Belfast County Borough.*

My Lord Mayor, Mrs. Coleman, and Gentlemen,

An Annual Health Report is a record which deals with the health of a city for the calendar year. Such a report gives its readers an opportunity of studying the health and sickness position of the city and of comparing the year in question with previous years. The report records the advances which have been made in the development of the different branches of our health activities, as for example, the great advance made in Municipal Maternity and Child Welfare work during 1931, or again, the fine advance made in the equipment of Whiteabbey Sanatorium during the same period. Similarly the Report is intended to point the way in matters which are not up-to-date or which have not reached that stage in development such as we expect to find in a modern city.

This report, now before you, is to a considerable extent the work of my colleagues, each medical man being a specialist in his own subject. In each section there will be found a statistical analysis together with explanatory matter where necessary. My colleagues, Drs. Barron, Trimble and Walker, have dealt with Infectious disease and Tuberculosis respectively. As will be seen I have concentrated my attention on Maternity and Child Welfare, on pure Public Health, and on the Port of Belfast. Dr. Robb writes on infectious disease at Purdysburn Fever Hospital; Mr. Malcolm deals with his surgical and other work at Graymount Hospital, whilst Dr. Tinsdale, the City Bacteriologist, Mr. M'Lean, the City Veterinarian and Mr. Kinning, the Manager of the Abattoir, have completed a tale that is told of the work of the department for 1931. While leaving much to the initiative and orientation of Medical Superintendent Officers of Health as to the contents of the Annual Report, the Ministry here, as in England, Wales and Scotland, lays down the general lines on which the Annual Report should be drawn up.

I have often thought that it would be a good thing if the designers of such reports were to ask our modern City Surveyors to take a hand in the report. For want of this I take this opportunity of stating that the City Surveyor, Mr. Robert Donald, and his excellent staff have been a power for good in the development of the health and well being of the citizens of this city during the year that is past. Practically every day there has been active co-operation between the two departments.

Looking over the varied work of the Health department we must start with the beginning of life, with Maternity and Child Welfare.

Great strides forward were made during 1931. Prior to this we had only six Child Welfare Centres, held at Danube Street, Donegall Road, Dee Street, Falls Road, York Street and Shankill Road respectively. The year 1931 saw extensions, so we now have (in addition to the above) Child Welfare Centres at Mervue Street, Woodstock Road, Byron Street and Gilford Street, with two additional sessions one at Dee Street and one at Shankill Road. To these must be added 7 Ante-Natal Centres held at Danube Street, Donegall Road, Dee Street, Woodstock Road, York Street, Shankill Road and Gilford Street. The importance of ante-natal supervision cannot be overestimated and it is most gratifying to record that the centres are embarrassingly successful. At the outset I circularised the midwives—numbering 221—and arranged a scheme whereby each midwife would send or bring her booked cases (expectant women) to Dr. Pollock at the ante-natal clinics. Where the midwife cannot attend with her patients, Dr. Pollock fills in a form giving the result of her examination and sends this back to the midwife. Our Health Visitors also recommend expectant women to attend

the Ante-Natal Clinics. In a small percentage of cases the examination of expectant women discloses some ominous condition ; in such cases the woman is sent to the appropriate hospital. This most essential work is only in its infancy therefore provision should be made for such as dental supervision etc., in expectant women. Meanwhile we are able in necessitous expectant and nursing cases to supply milk. Furthermore our Health Visitors are now visiting expectant mothers in their own homes ; their duty amongst other things is to see that the surroundings are satisfactory and to give advice on the preparations for the confinement. In poor cases assistance is now given in the form of maternity outfits and the supply has been a great boon.

Infant Mortality.

The infant mortality rate of a city in any year is stated as the number of deaths of infants in that year per 1,000 live births occurring in the same year. The number of births notified in 1931 was 10,239 (included in this were 161 births notified to us by Registrars or discovered by Health Visitors). Of these births 532 were still births, leaving 9,707 live births. Of these, 470 were illegitimate, and of this number 139 had outside city addresses. The number of infants' deaths, from the four quarterly returns of the Registrar General was 850. The Registrar General gives the infant mortality rate for the year 1931 as 90. In the previous year the infant mortality rate was 78, a highly satisfactory figure. The increase, causing the figure 90 for 1931, was due to Measles and its complications. Forty-three deaths of infants were due to Measles alone, while 31 died from Bronchitis and 154 from Pneumonia. An epidemic of Measles comes every two years or every $2\frac{1}{4}$ years ; it cannot be prevented, but by suitable organisation much can be done to help the general medical practitioners who attend these cases. It was decided to make Measles a notifiable disease for one year and to seek the assistance of the British Red Cross and the nurses of the Order of St. John of Jerusalem. These ladies attended at the Health Department every morning and received lists of cases for visiting. At each affected household they left a form for the family doctor setting forth a list of medical comforts which we would be glad to supply if the doctor thought it necessary. Amongst other things were provided, pneumonia jackets, soups, oatmeal, milk, etc. The nurses made poultices and generally attended to the hygiene of the cases. Coals, too, were provided through the generosity of the Lord Mayor's fund. Of the 4,430 cases notified, eighty-five per cent. were visited until the convalescence of the patients was established ; this entailed a total of 50 thousand visits. One cannot thank the British Red Cross and Order of St. John's Joint Committee enough for all their kindness, they gave us nurses and financial assistance. Sir Robert Kennedy, the President of the Joint Committee, was a tower of strength. Others, too, stood by us such as the Rotary Club, Messrs. White, Tomkins & Courage, and Messrs. John Thompson & Sons. We see, therefore, that the occurrence of a Measles epidemic, every two years, lasting some four months, kills a number of infants either through the disease itself or following upon complications. An infant mortality rate of 90 per 1,000 born is reasonably good for a Measles year. Each year we study the principal causes of death occurring among infants and consider what can be done to prevent these causes. If we look at the infant mortality rate for some years back and compare it with 1931 we find much that is heartening and encouraging. The infant death rate for 1912 was 129 per 1,000 births, while that for 1930 was 78 and for 1931 was 90. Several factors have combined to this great improvement in the infant mortality rate.

1. The appointment of experienced Maternity and Child Welfare Medical Officers and Health Visitors, with consequent instruction, advice, consultations and supervision in the homes of the people and in the clinics.
2. The greater purity of food and more especially of milk and the greater use of persuasive methods in obtaining a purer milk supply.
3. The steady improvement of mothers in general ability, initiative, etc., as a result of compulsory free education.

4. The gradual improvement in sanitary conditions, in environment, housing mainly—progressive sanitation—public enlightenment and private and personal demand for better conditions.

There is, however, a phase of the infant mortality question which is disquieting and to which attention must be drawn ; I refer to the neonatal mortality rate. What is this particular rate ? Neonatal deaths are those which take place within the first month of independent existence. Now, looking at cities and towns throughout the Kingdom we find that while there has been a great reduction in the infantile mortality rate, the fall in the neonatal mortality rate has been a small one—but still there has been a fall. Take the city of Coventry for example. Whereas the infant mortality rate has fallen from 145 to 57 between the years 1906 and 1930, the neonatal mortality rate has only fallen in Coventry from 40 to 30 in the same period. In Belfast, taking the years 1912 and 1931 the infant mortality rate fell from 129 to 90, yet in the same years the neonatal mortality rate rose from 34 to 37 ! If we take an intermediate period, say 1922, we find that the Belfast neonatal mortality rate was 37. In other words, this rate has remained stationary, if it has not actually become worse. To follow this up, we must examine those deaths which are common to the first month of life—the neonatal period—and their causes. The principal causes of neonatal deaths are :

1. Birth injury following difficult labour. This is laid down again and again by experienced workers. The Health Organisation of the League of Nations states that the common causes of neonatal death are severe head injuries due to difficult labour. Professor Currie says that the complications of labour are the main lethal factor in neonatal deaths. There is only one way, one golden rule, which must be followed to stop this state of affairs and that is to insist, in season and out of season, that every woman who is expecting a baby must receive ante-natal examination and care. The majority of confinements in Belfast are attended by midwives acting alone ; the midwives have done their work excellently and have kept in close touch with the department. The present annual death rate of infants in their first month of life must be stopped and the keynote is ANTE-NATAL WORK by a qualified medical man or woman.

2. Here, in Belfast, during 1931, 84 babies died before reaching one month from Atrophy, Debility and Marasmus. Why ? The nutrition of the expectant mother is very important. Her physique must be improved and so the general resistance of the newly born infant will be raised. This second factor in the production of neonatal deaths illustrates the importance, the seriousness of maternal ill-health, this group (2.) (maternal ill-health) includes the illnesses and toxæmias from which an expectant mother may suffer. Although not coming within the province of neonatal deaths, mention must be made of the toll of still births, these are usually reckoned at 30 per 1,000 live births, but in 1931 the rate in Belfast was 54. Again although abortions and miscarriages are neither registrable, nor notifiable it is recognised that these amount to 200 per 1,000 live births. Now these 200 abortions and miscarriages are due to ante-natal causes. Ante-natal causes yield 54 still births per 1,000 live births. If we add the 200 and 54, making 254, to our 37 neonatal deaths we find that the total deaths accreditable to ante-natal causes amount to 291 per 1,000 live births.

I have said sufficient to show, to prove, that public opinion in Belfast must be educated and guided so that every man and woman will understand that it is a crime to allow an expectant woman to pass through the period of pregnancy without ante-natal supervision and treatment. Experience teaches that examinations so carried out reveal such conditions as septic teeth, septic tonsils, constipation, tuberculosis, syphilis, heart diseases, nephritis, etc.

Maternal Mortality.

No subject evokes greater distress, greater sympathy, than the death of a young wife during or after the birth of a baby. These mothers are cut off in the prime of their usefulness and activity. The home is left desolate and the family is deprived of care and nurture. Many, who survive the complications and sequelae of a difficult labour are never restored to health. By the maternal

mortality rate we mean the number of maternal deaths per 1,000 live births. This rate is low in Italy and Norway and is high in Scotland and the United States. While in England and Wales this death rate has varied, between the years 1911 and 1928, from 3.7 to 4.42, in Scotland the rate between the same period has varied from 5.5 to 7. It must be stated that the Scottish figure includes various classes of death which in England and Wales are not grouped as puerperal. Here in Belfast the maternal mortality rate for 1931 was 6.5, this is too high. In studying the causes of these we find that ten were due to Puerperal Albuminuria and Convulsions. Here is a condition which is distinctly preventable. In our investigations into our maternal mortality cases, due to eclampsia, it was made clear that, in some cases, if the woman had received ante-natal care, the condition would have been arrested and cured.

Approximately one third of the deaths were due to Puerperal Sepsis ; this is generally the proportion of deaths from puerperal sepsis to the total causes of maternal mortality throughout the country. As to the meaning of puerperal sepsis it is defined as being—" usually the result of the implantation of pathogenic bacteria on the denuded placental site or a puerperal laceration in consequence of the actings of some person in attendance upon a woman in child-bed."

" The predisposing causes of puerperal sepsis are internal manipulation and injury."

The total number of cases of puerperal sepsis notified during the year was 15 while 76 cases of puerperal pyrexia were notified.

Puerperal pyrexia means a temperature of 100.4° F. or over lasting for 24 hours, or recurring during 24 hours, within 21 days after childbirth or miscarriage. Puerperal pyrexia may be due to some simple cause or it may be the forerunner of the dreaded puerperal sepsis. It is now notifiable and the object of making it notifiable is that patients may be quickly brought within reach of the facilities for hospital treatment, diagnosis, nursing and specialist advice provided by local authorities. Seventy-six cases of puerperal pyrexia were notified during the year and twelve of these died. There are two things required in our Municipal Maternity and Child Welfare service. The Corporation should appoint a specialist who would be available on call, by a general medical practitioner, for the purpose of consultation if and when the practitioner has a case in which a temperature of 100.4° F. has lasted over 24 hours, as defined under puerperal pyrexia. Further the municipality should place phials of the appropriate anti-serum at the disposal of the practitioners as is done in the case of diphtheria. These expenses are nothing when we consider that our maternal mortality rate is 6.5. Another point of importance is that of these 12 deaths referred to, the midwife, in three cases was an uncertified midwife. The law at present leaves a loophole here, in an emergency, an uncertified midwife may act, but in the three cases referred to there was a doctor present, so there is a doubt that the uncertified midwife was engaged, knowingly, beforehand, by the family, and that the question of an unqualified person acting in an emergency had nothing to do with it. The time has now come when Parliament should make it a punishable offence for anyone to assist a doctor at a confinement who is not a certified midwife. This work, obstetrics, is too serious to trifle with. Sometimes doctors are blamed for not refusing to conduct a case when an unqualified midwife, a handywoman, appears to help him, but the doctor's position is a most difficult one. He may cause serious offence if he takes a stand on the subject and refuses to act with an unqualified midwife. Even so, he ought to take such a stand. It is curious how the world, at large, has bowed the knee to the great surgeon and the eminent physician—and rightly too—but, alas, the obstetrician at the same time, has been regarded just as a decent sort of a man to have about the house in an emergency. The subject of obstetrics must be raised and ennobled, a wider, a more statesmanlike attitude must be adopted by all.

Meanwhile as the Interim Report of the Departmental Committee on Maternal Mortality indicates :—" **not less than 50 per cent. of maternal deaths may from one aspect or another, be classed as preventable.**"

Ophthalmia Neonatorum.

This means any inflammation which occurs in the eyes of an infant within 21 days from the date of its birth and is accompanied by a discharge. This is a grave disease for which we are on the look-out at our ante-natal clinics and which might cause a newly born baby to become blind in a few hours. Twenty-five per cent. of all cases of blindness, according to the Royal Commission on Venereal Diseases, is attributable to gonorrhoeal ophthalmia. Dr. Pollock's instructions are, at the Ante-Natal Centres, to see that any appropriate case is directed to the appropriate hospital for treatment and to report the case to me for following up. The number of cases of Ophthalmia Neonatorum notified during 1931 was 71. These cases are followed up at once, as notification, without active treatment, is useless. Further, midwives are required by their rules to notify the Local Supervising Authority of any case of inflammation of the eye in a baby. Again, the Health Visitors are requested to telephone me if and when they come across a baby with an inflamed eye. It is gratifying to report for the third successive year, that no baby attended by a midwife, then by a Health Visitor, has suffered as much as even a slight permanent scar. No infant has gone blind through Ophthalmia Neonatorum. This must never be allowed to happen.

The following are the number of cases notified to me by midwives, namely 38, by Health Visitors 89.

The helpless years of infancy are a sacred care to us all in these years of social interdependency and communal foregathering. There are other matters connected with Maternity and Child Welfare which will be dealt with in future reports, meanwhile much useful information, mainly of a statistical nature will be found in the body of the Report.

The Public Health.

CANCER—In England and Wales the number of deaths recorded as due to cancer during 1930 showed an increase over 1929, the numbers being 57,882 as against 56,896; the death rate from cancer per million persons living for 1930 was 1,454.

The recorded deaths per million for five years similarly were:—

1926	..	..	.. 1,362
1927	..	..	.. 1,376
1928	..	..	.. 1,425
1929	..	..	.. 1,437
1930	..	..	.. 1,454

It is believed that a fraction of the increase is a natural consequence of the higher average age at death of the population, another fraction is a result of greater diagnostic ability to recognise the disease, especially in the deeper seated organs. Under these circumstances, in the absence of some striking improvement in methods of treatment, an annual increase of recorded mortality should not only not be received with surprise or dismay, but it may actually be expected for some years to come. The late Registrar General for Scotland has pointed out that approximately three-quarters of the recorded increase in recent years could be ascribed to ageing of the population through its effect of greater numbers of persons being alive at the ages which are liable to cancer. The remainder of the increase could, subject to an exception in the case of breast cancer, reasonably be ascribed to better recognition of the disease, with the consequent absence of indication of any true increase in incidence. As Sir George Newman says "although the conclusions drawn might not command universal assent among statisticians it is desirable again to call attention to the misconceptions likely to arise by accepting the certification figures at their face value as evidence of an alarming increased prevalence of cancer." These words, applied to the figures for Belfast—fully given in subsequent pages—leave me with the impression that there is no cause for alarm in Belfast. There is a slight statistical increase locally. An ageing

population and constantly improving methods of and skill in the diagnosis, surely account for a very considerable percentage in the small increase in cancer in Belfast.

Here are the figures, the numbers of males and females who have died from cancer during the last five years.

YEAR	MALES	FEMALES	TOTAL.
1926	174	250	424
1927	196	234	430
1928	183	264	447
1929	184	252	436
1930	217	259	476
1931	235	273	508

Taking these figures and remembering the qualifications laid down above it is difficult to believe that cancer is increasing among females in Belfast. Statistically, there is a definite increase in the mortality of males.

Mankind is asking to-day whether cancer is preventable. There is a cancer problem to be faced. One person out of every six, over the age of 40, dies of cancer, and nearly 160 people die from this disease in England and Wales every day. The cause of this scourge remains a secret, but there is the weapon of prevention, and if this is applied it might at least arrest the progressive increase of the last eight or nine decades.

Long periods of exposure to chemicals and other irritants produce cancer of the skin ; it may be that cancer, or some cases at any rate, are Nature's revenge for the transgression of biological and physiological laws. So we argue that the shortest road to the conquest of cancer is to concentrate on its prevention, and so we endeavour to make people fit and keep them fit. Meanwhile what are the experts doing ? The biologist examines his outraged cell ; the bacteriologist seeks for a causative microbe, and for its antidote, the biochemist works upon complex organic compounds, which are the end products from decomposing intestinal contents and necrosed cancer tissue. Certainly the intestinal flora with its toxins and bacteria are a fertile breeding ground for constitutional diseases. So the question is, does the cause of cancer lie in this welter of products of putrefaction ; if so, then why not prevent it ? Our surgeons may have reached the limit of perfection in technique, X-radiation affords little scope for further advance, yet radium, though useful as a palliative, has not yet proved its capacity as a curative agent. The fact is the battle against cancer is being fought in the dark ; treatment of a disease is successful when it follows upon a known cause. As regards cancer theories Sir Arbuthnot Lane says that he has not the slightest doubt that with rare exceptions cancer is as much the result of chronic intestinal stasis as are appendicitis, colitis, gall stones, etc. Another writer blames constipation, and on this point Sir Arbuthnot Lane holds that intestinal stasis is a condition that can produce cancer of the bowel by irritation and destruction of the lining membrane of the bowel and by the absorption of toxins from the decomposing faeces being passed by the blood stream to the tissues in various parts of the body, so preparing the ground for the origin of a cancer focus. And so as constipation is blamed, some eat fruits and vegetables, and wholemeal, and drink a glass of warm water of a morning, all no doubt excellent things to do.

A wrong diet is blamed as the cause of cancer, but many surgeons scoff at the idea of food exerting any influence. Meat eaters and vegetarians both suffer from cancer. The treatment is in the hands of the surgeon principally. In 1898 the Curies of Paris first announced the discovery of radium, but harm was done by the extravagant claims made in the early days of its use. To-day radium is regarded by surgeons as a useful addition to their armamentarium, to be used alone or in conjunction with a surgical operation.

The Radium Sub-Committee's report for 1930 deprecated extravagant claims being made for radium as a cure for cancer—the results are “encouraging”—

“many problems remain to be solved.” The partnership of surgery with X-rays and radium has done much but has not provided the solution of the problem earnestly awaited. In looking around, we ask whether, with our present limited knowledge, there are no steps which we can take to prevent cancer, we notice two theories—first, that cancer is a local disease with constitutional symptoms developing later when it has progressed sufficiently to affect other organs and structures; second, that cancer is primarily a constitutional condition followed by local manifestations. Naturally the nature of the treatment and of the preventive measures to be carried out depends upon which theory is accepted. The general view held is that the local disease is the primary event, and the constitutional symptoms are a secondary consequence. Propaganda has been undertaken advising the public to seek medical advice at once wherever a growth is recognised, but more stress might be laid on the point that cancer is frequently due to irritation in certain regions.

In emphasising this point to people before the middle period of life is reached, we are helping to prevent cancer. Irritation may transform a colony of cells which will then proceed to defy all the laws of physiological cell life. Can such cells be saved from retrograde and lawless action? The cancer cell does not thrive in healthy tissue. It is held that tainted blood—vitiation of the blood stream—reacts adversely upon every structure of the body. Inattention to the bowels is blamed as a source of irritation, congestion, then ulceration and malignant growth. Such neglect, it is stated, leading to intestinal stasis, is likely to devitalise the tissues and overtax the work of the organs, which, with the approach of old age, become less able to perform their duties. Neglect of simple hygienic rules is injurious to the constitution of the tissue soil, hence the actual cause of cancer, when it enters the system, will find an easier prey than would otherwise be the case. There is no advice I can give other than moderation in all things. Diet has been blamed, especially meat eating, but an investigation has proved that cancer occurs quite readily among those who lead the most ascetic lives. Our aim is Prevention. Preventive medicine has succeeded in reducing the incidence and mortality of practically every infectious disease, and in preventing what are now known as deficiency diseases. The purpose of preventive medicine, as Sir George Newman says, is to prevent such disease as is preventable, to lengthen man's life, and make it happier and more effective by (1) developing and fortifying the physique and powers of resistance of the individual; and (2) discovering and then preventing or removing the causes and conditions of disease and its propagation. So far cancer has baffled the medical profession. Smallpox, diphtheria, diabetes and pernicious anaemia and a host of others have been dealt with. The downfall of cancer will follow.

Food and Drugs.

In 1929 I was exercised in my mind as to the percentage of samples of milk submitted by us to the Public Analyst for examination, which were certified to be adulterated. The following figures illustrate the position for the past five years:

Adulteration of Sweet Milk.

Year	Samples Taken.	Percentage Adulterated (Fat Abstracted)	Added Water.
1927	1,131	8.4	3
1928	1,150	8	2.4
1929	1,300	8.3	1.1
1930	1,307	5.1	1.2
1931	1,197	4	.4

On receiving the Analyst's reports each case is carefully considered. In cases where a warning letter seems to be sufficient, such is sent, whilst in others a prosecution is undertaken. It is very gratifying to find that the percentage of unsatisfactory milks has fallen to such a low figure. Furthermore, the Public

Analyst and City Bacteriologist both report a definite improvement in the standard of cleanliness in the milks which we send to them for analysis as to cleanliness. As regards milk and tuberculosis, this subject has surely been made clear by now. Some notes may be given from Sir George Newman's last Annual Report. Referring to England and Wales he states that the proportion of cows affected with tuberculosis is probably not less than 50 per cent., but that only a small fraction, estimated at between 1 and 2 per cent., are at the stage of the disease in which tubercle bacilli may be actually present in the milk. Raw milk which is tuberculous amounts to, on the average, about 8 per cent. Sir George's words on the "best" milk must be quoted "Whilst it cannot be gainsaid that the best milk which could be procured, would be milk obtained from perfectly healthy cows under the cleanest possible conditions, cooled and bottled, and distributed with the least possible handling and delay, it must be admitted that this is an ideal which is difficult to obtain, and in spite of all efforts, which have hitherto been made, the bulk of the milk supply falls far short of it. In the absence at the present time of any practicable means of completely eradicating tuberculosis from the herds of the country, proper pasteurisation affords a solution of the difficulty and supplies a means of rendering the ordinary milk supply safe." Thus we have the whole matter in a nutshell:—there are two milks only for the people, either Grade A. T.T. or pasteurised. The former is dearer than the latter; pasteurised milk is a milk in which the ordinary germs or toxins of infectious diseases have been destroyed by the process of heating. I do not think that there is much risk from such infection, but it has been proved to exist. Grade A. T.T. is free from the deadly tubercle bacilli, and in pasteurised milk the process of pasteurisation has killed it or attenuated it. Both are excellent milks. Meanwhile, it is a source of great gratification to report that the Belfast Public Health Committee resolved—That the Council be recommended to instruct the M.S.O.H. to confer with the Ministry of Home Affairs with a view to effect being given to the following: that steps be taken to provide that only Grade A. T.T. and pasteurised milk be sold in the city, and that in the event of this decision being arrived at, one year's notice be given to milk vendors of the requirements of the Corporation in this respect, and that such restriction should not apply to "dried" milk, condensed milk or buttermilk.

It is questionable whether a more important health measure has been passed by the Council for a long time. The elimination of surgical tuberculosis, to an overwhelming extent, depends upon it. The matter now rests with the Ministry of Home Affairs. While on the subject of tuberculosis it is likewise gratifying to record that the Council has also resolved that the Ministry of Home Affairs be requested to take steps with a view to the Tuberculosis Prevention (Ireland) Act, 1908, being amended so as to make tuberculosis in all its forms a notifiable disease. At present only sputum positive cases are notifiable, consequently we have no definite knowledge as to where we stand with regard to early cases of pulmonary tuberculosis—the very stage of the disease at which we should catch the cases if we are to render assistance. Meanwhile we know that, thanks to the medical inspection of school children, we have in our schools to-day children suffering from tuberculosis seated side by side with others not so suffering; this is unfair to both. I feel sure that when the Ministry requires all stages of tuberculosis to be made notifiable we shall then be able to understand the situation to the full, and so be in a position to take all necessary action for the treatment and prevention of the disease.

I have chosen these preceding paragraphs for my introductory letter, as the subjects dealt with therein occur to me as being amongst the most important. I trust, however, that the subjects dealt with in the report will serve to illustrate the work that has been accomplished in the department, and to point the way towards making people fitter and happier.

Throughout the year the whole department has worked steadily and faithfully and to each and every member of the staff I tender my most grateful thanks.

During the year the Department was saddened by the death of Miss Daisy McClure, Mr. J. McClure Barry, City Veterinarian, and Mr. W. J. Davison,

Divisional Officer. All were loyal officers who gave of their best at all times, and they will be long remembered.

To you, my Lord Mayor, to the Chairman of the Health Committee and to all members of the Council, I gratefully acknowledge the kind support and encouragement, which I have received at all times.

I have the honour to remain,

My Lord, Mrs. Coleman and Gentlemen,

Your obedient Servant,

CHARLES S. THOMSON,

Medical Superintendent Officer of Health.

BIRTHS.

9,470 births were registered during the year, equivalent to a birth rate of 22.8 per 1,000 of the population. This is an increase of 0.1 per 1,000, compared with the preceding year, when the number registered was 9,558 and the rate 22.7.

The average number registered annually during the ten years, 1921-1930, was 10.096, and the average annual birth rate 23.8.

The following shews the number of births, the percentage of the total number registered during the year, and the annual birth rate per 1,000 of the population in each of the four quarters of the year :—

		No. of Births	Percentage of Total No.	Birth Rate
First Quarter	..	2,336	24.7	22.5
Second Quarter	..	2,639	27.9	25.4
Third Quarter	..	2,370	25.0	22.8
Fourth Quarter	..	2,125	22.4	20.5

DEATHS.

5,857 deaths were registered from all causes during the year, equivalent to a death rate of 14.1 per 1,000 of the population, an increase of 1.2 per 1,000 compared with the preceding year, when the number registered was 5,451 and the rate 12.9.

The average number registered annually during the ten years 1921-1930 was 6,050 and the average annual death rate 14.3.

The following shews the number of deaths, the percentage of the total number registered during the year, and the annual death rate per 1,000 of the population in each of the four quarters of the year :—

		No. of Deaths	Percentage of Total No.	Death Rate
First Quarter	..	2,034	34.7	19.6
Second Quarter	..	1,426	24.3	13.7
Third Quarter	..	1,135	19.4	10.9
Fourth Quarter	..	1,262	21.5	12.2

TABLE I.

Shewing the number of deaths, the percentage of the total number registered, and the death rate per 1,000 of the population at various age periods compared with the year 1930.

		1931			1930		
		No. of Deaths	Percentage of total Deaths Registered	Death Rate per 1,000 of the population	No. of Deaths	Percentage of total Deaths Registered	Death Rate per 1,000 of the population
Under 1 year	..	850	14.5	2.0	749	13.7	1.8
1 year and under 5 years	..	447	7.6	1.1	301	5.5	0.7
5 and under 25 years	..	447	7.6	1.1	469	8.6	1.1
25 and under 45 years	..	722	12.3	1.7	635	11.6	1.5
45 and under 65 years	..	1,538	26.3	3.7	1,539	28.2	3.7
65 years and upwards	..	1,853	31.6	4.5	1,758	32.3	4.2

TABLE II.

Shewing the number of deaths from various causes, together with the percentage of the total number registered and the death rate per 1,000 of the population.

		1931			1930		
Cause of Death.		No. of Deaths	Percentage of total Deaths Registered	Death Rate per 1,000 of the population	No. of Deaths	Percentage of total Deaths Registered	Death Rate per 1,000 of the population.
Typhoid Fever ..	..	1	0.02	0.002	2	0.04	0.005
Typhus Fever ..	..	—	—	—	—	—	—
Smallpox ..	..	—	—	—	—	—	—
Measles ..	..	133	2.27	0.32	6	0.11	0.01
Scarlet Fever ..	..	13	0.22	0.03	7	0.13	0.02
Whooping Cough ..	..	32	0.55	0.08	65	1.19	0.16
Diphtheria ..	..	13	0.22	0.03	22	0.4	0.05
Dysentery ..	..	—	—	—	—	—	—
Influenza ..	..	80	1.37	0.19	35	0.64	0.08
Diarrhoea—							
Under 2 years of age ..	..	100	1.71	0.24	116	2.13	0.28
Tuberculous Diseases—							
Phthisis ..	..	452	7.72	1.09	436	8.0	1.05
Other Forms ..	..	104	1.78	0.25	149	2.73	0.36
Total Tuberculous Diseases		556	9.50	1.34	585	10.73	1.41
Diseases of the Respiratory System—							
Pneumonia ..	..	518	8.84	1.25	357	6.55	0.86
Other ..	..	479	8.18	1.15	482	8.84	1.16
Total Dis. Resp. System ..	..	997	17.02	2.40	839	15.39	2.02
Total Chest Affections ..	..	1,449	24.74	3.49	1,275	23.39	3.07
Cancer ..	..	490	8.37	1.18	466	8.55	1.12
Violence ..	..	114	1.95	0.27	130	2.38	0.31

TABLE III.

Shewing the annual death rate per 1,000 of the population from all causes during the twenty years 1912-1931 ; also the average rate for quinquennial periods.

Year.		Rate.		Year.		Rate.
1912	..	18.1		1922	..	14.8
1913	..	18.8		1923	..	13.8
1914	..	18.9	18.1	1924	..	14.3
1915	..	17.9		1925	..	14.0
1916	..	16.7		1926	..	15.4
1917	..	16.7		1927	..	13.6
1918	..	22.7		1928	..	14.0
1919	..	17.9	17.8	1929	..	15.6
1920	..	17.5		1930	..	12.9
1921	..	14.4		1931	..	14.1

TABLE IV.

Shewing the number of Births registered in each of the several Dispensary Districts, also the number of deaths of Infants under 1 year old.

			BIRTHS				DEATHS
DISTRICT			1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Under 1 Year
No.	1	..	93	127	110	72	54
„	2	..	260	285	248	224	102
„	3	..	302	342	311	265	99
„	4	..	217	235	230	233	101
„	5	..	114	99	102	78	44
„	6	..	122	174	125	121	33
„	7	..	17	20	16	23	4
„	8	..	42	47	49	48	14
„	9	..	202	237	185	174	62
„	10	..	180	200	199	167	73
„	11	..	181	214	222	191	49
„	12	..	189	199	153	139	89
„	13	..	110	138	121	126	29
„	14	..	1	2	—	1	1
„	15	..	160	161	156	131	53
„	16	..	146	159	143	132	43
Total	..		2,336	2,639	2,370	2,125	850

TABLE V.

Shewing the Population, the number of Births, the Birth Rate per 1,000, the number of Deaths, the Death Rate per 1,000, and the natural increase during the fifty one years 1881-1931.

Year		Population	No. of Births	Birth Rate per 1,000	No. of Deaths	Death Rate per 1,000	Natural Increase
1881	..	207,671	6,942	33.4	4,911	23.6	2,031
1882	..	207,671	6,820	32.8	5,365	25.8	1,455
1883	..	214,022	6,694	31.3	5,600	26.2	1,094
1884	..	216,622	7,231	33.4	5,073	23.4	2,158
1885	..	219,222	7,161	32.7	6,127	27.9	1,034
1886	..	221,822	7,344	33.1	5,256	23.7	2,088
1887	..	224,422	7,502	33.5	5,807	25.9	1,695
1888	..	227,022	7,719	34.0	5,742	25.3	1,977
1889	..	229,622	7,705	33.6	5,921	25.8	1,784
1890	..	232,222	8,250	35.5	6,861	29.5	1,389
1891	..	255,922	8,650	33.8	6,537	25.5	2,113
1892	..	261,046	8,592	32.9	6,910	26.5	2,166
1893	..	275,000	9,399	34.2	6,848	24.9	2,551
1894	..	285,000	9,349	32.8	6,615	23.2	2,734
1895	..	295,000	9,772	33.1	7,168	24.3	2,604
1896	..	300,000	10,378	34.5	6,953	23.2	3,425
1897	..	310,000	10,481	33.3	7,225	23.3	3,256
1898	..	340,000	11,234	33.0	7,768	22.8	3,466
1899	..	350,000	11,437	32.7	7,933	22.7	3,504
1900	..	359,000	11,192	31.2	7,642	21.3	3,550
1901	..	350,862	10,859	30.9	7,738	22.4	3,121
1902	..	360,000	11,113	30.5	7,577	20.8	3,536
1903	..	360,000	11,488	32.0	7,169	20.0	4,319
1904	..	360,000	11,323	31.6	7,474	20.8	3,849
1905	..	360,000	11,395	31.8	7,178	20.0	4,217
1906	..	366,220	11,355	31.0	7,379	20.1	3,976
1907	..	370,163	11,233	30.3	7,870	21.3	3,353
1908	..	380,344	11,490	29.7	7,523	19.5	3,967
1909	..	386,576	10,900	28.2	7,028	18.2	3,872
1910	..	391,167	10,888	27.8	7,284	18.6	3,604
1911	..	386,449	10,984	28.4	6,645	17.2	4,339
1912	..	391,974	10,884	27.8	7,111	18.1	3,733
1913	..	396,000	10,996	27.8	7,453	18.8	3,543
1914	..	399,000	11,337	28.0	7,663	18.9	3,674
1915	..	403,000	10,196	25.3	7,220	17.9	2,976
1916	..	390,000	9,415	24.1	6,496	16.7	2,919
1917	..	393,000	8,718	22.2	6,557	16.7	2,161
1918	..	393,000	9,282	23.6	8,920	22.7	362
1919	..	401,000	10,464	25.7	7,278	17.9	3,186
1920	..	413,000	12,144	29.4	7,234	17.5	4,910
1921	..	420,000	11,043	26.3	6,045	14.4	4,998
1922	..	425,000	10,667	25.1	6,304	14.8	4,363
1923	..	429,000	10,746	25.0	5,910	13.8	4,836
1924	..	434,000	10,594	23.9	6,329	14.3	4,265
1925	..	438,000	10,234	23.4	6,131	14.0	4,103
1926	..	416,000	10,356	24.9	6,411	15.4	3,945
1927	..	416,000	9,509	22.9	5,653	13.6	3,856
1928	..	415,151	9,356	22.5	5,804	14.0	3,552
1929	..	415,151	8,899	21.4	6,462	15.6	2,437
1930	..	415,151	9,558	22.7	5,451	12.9	4,107
1931	..	415,151	9,470	22.8	5,857	14.1	3,613

TABLE VI.

Comparative Table of Results in each of 52 weeks. Deaths in Public Institutions of persons *admitted from without the City omitted.*

BELFAST		WEEK ENDING																																																				
		Jan. 10	Jan. 17	Jan. 24	Jan. 31	Feb. 7	Feb. 14	Feb. 21	Feb. 28	Mar. 7	Mar. 14	Mar. 21	Mar. 28	Apr. 4	Apr. 11	Apr. 18	Apr. 25	May 2	May 9	May 16	May 23	May 30	June 6	June 13	June 20	June 27	July 4	July 11	July 18	July 25	Aug. 1	Aug. 8	Aug. 15	Aug. 22	Aug. 29	Sept. 5	Sept. 12	Sept. 19	Sept. 26	Oct. 3	Oct. 10	Oct. 17	Oct. 24	Oct. 31	Nov. 7	Nov. 14	Nov. 21	Nov. 28	Dec. 5	Dec. 12	Dec. 19	Dec. 26	Jan. 2	
Number of weeks in Annual Series		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	
Births registered		186	184	182	180	155	138	182	197	195	188	208	186	140	202	229	219	197	204	205	208	201	203	189	205	212	165	221	159	223	207	193	182	153	191	164	180	161	181	155	186	188	143	138	199	159	161	151	150	174	179	106	191	
Number of Deaths		158	137	145	135	154	174	201	156	177	182	148	149	118	149	120	127	109	131	101	109	103	93	113	93	84	94	91	78	94	79	93	99	76	80	94	90	86	96	79	93	84	88	94	101	96	93	105	88	86	105	109	120	
Annual Death-rate per 1,000		19.8	17.2	18.2	17.0	19.3	21.9	25.2	19.6	22.2	22.9	18.6	18.7	14.8	18.7	15.1	16.0	13.7	16.6	12.7	13.7	12.9	11.7	14.2	11.7	10.6	11.8	11.4	9.8	11.8	9.9	11.7	12.4	9.5	10.0	11.8	11.3	10.8	12.1	9.9	11.7	10.6	11.1	11.8	12.7	12.9	11.7	13.2	11.1	10.8	13.2	13.7	15.1	
Ages	Under 1 year	37	30	29	26	24	24	29	27	25	32	28	28	22	23	15	23	21	12	7	18	20	14	12	7	9	8	11	12	3	5	5	15	11	13	16	18	9	10	9	13	8	15	15	12	10	7	20	9	7	13	19	15	
	1—5 years	18	10	14	14	8	15	24	19	23	26	21	17	20	14	14	12	7	16	9	3	7	6	11	10	7	5	3	1	4	1	8	5	6	2	7	3	6	3	2	2	4	5	2	3	4	2	2	4	2	6	6	4	
	5—25	12	6	9	8	10	12	15	9	12	16	9	14	8	12	8	7	14	19	9	12	9	9	8	9	5	9	6	4	10	6	13	6	9	7	5	7	9	7	4	10	5	3	6	3	5	4	7	4	9	9	7	12	
	25—45	11	12	13	17	32	21	21	14	26	22	16	15	9	23	13	13	11	16	14	11	10	13	18	13	9	16	5	14	15	9	9	12	10	14	19	16	3	17	8	8	11	4	10	16	12	11	15	16	13	15	16	15	
	45—65	38	23	40	32	39	38	42	47	34	31	31	37	19	30	30	38	23	32	25	37	32	25	27	29	27	25	33	24	33	29	22	24	20	25	25	20	31	23	29	32	27	26	27	26	24	35	25	20	29	40	25	33	
	65 and upwards	42	56	40	38	41	64	70	40	57	55	43	38	40	47	40	34	33	36	37	28	25	26	37	25	27	31	33	23	29	29	36	37	20	19	22	26	28	36	27	28	29	35	34	41	41	34	36	35	26	22	36	41	
Deaths from:—																																																						
Enteric Fever																															1																							
Typhus Fever																																																						
Small-pox																																																						
Measles		1	2	2	3	3	3	9	8	11	12	10	10	9	12	5	3	5	8	3	1	2	2	2	2	2	1					2																						
Scarlet Fever					1	1			1		1		1						1		1																																	
Whooping-cough		2			2	3	2	3	2	1	4	1		1					2			2			2				2						1																			
Diphtheria		2	1		1	1		1					1	1				1			2								1																									
Dysentery																																																						
Influenza			2	4	2	3	8	9	6	8	7	4	3	3	5	1		1			1	1		2	1	1																												
Tuberculosis	Pulmonary	7	4	7	9	12	9	10	5	16	14	11	11	7	15	8	10	5	15	5	12	8	3	8	10	6	13	7	3	14	5	11	11	11	14	6	5	4	9	6	8	3	7	8	9	8	6	8	9	9	11	8	12	
	Other Forms	2	2	1	1	2	1	2	3	2	1	3	1	1	1	1	3	5	4	7	5	5	2	3	3	1	3	2	1	2		2	3	2	1	3	2	2	2	1	3	1			3	3		1	1		2			
Cancer		11	8	8	8	7	12	10	8	10	9	6	8	7	8	13	9	6	6	7	9	8	11	9	18	6	9	14	13	11	8	11	11	11	5	13	10	13	8	10	8	5	13	13	8	11	8	12	5	11	5	10	12	
Diseases of Respiratory System		17	25	24	16	15	25	30	29	29	22	20	16	12	11	9	7	5	6	6	6	8	5	10	6	4	3	2	2	4	4	9	6	9	1	5	3	3	8	7	6	4	7	6	0	8	7	5	8	7	6	9	10	
Others		19	24	13	17	21	27	40	14	18	24	16	10	8	14	23	15	3	6	6	1	4	3	6	5	3	5	5	3	4	3	1	2	2	3	4	11	6		5	5	2	5	2	10	7	9	6	5	8	9	6	13	
Diarrhoea and Enteritis, under 2 years		3	2	3			1	2		2	2	1	2	3	2	4	2	2	1	1	2	3	1	2	2	1	2		1					2		4	5	7	2	2	1	3	4	2	2	4	3		2			4	4	2
Violent Deaths		3		1	4	6	1	2	4	2	1	1	1	4	7	5	6	1	2	2		3	2	1	1	1	1	1	1	1	1	2	2	1	2	5	5	1	3		2	1		2	1	1	4	2	1	1	9	3	2	
Number of Uncertified Deaths		3	2	2	6	4	2	3	5	2	4	5	3	1	1		5	4	2	1	3	1		2	1	4	2		1	2	4	3	4	1	1	1	2	6	3	1	1	1	3	1	2	3	1	3	2	3	2	1		

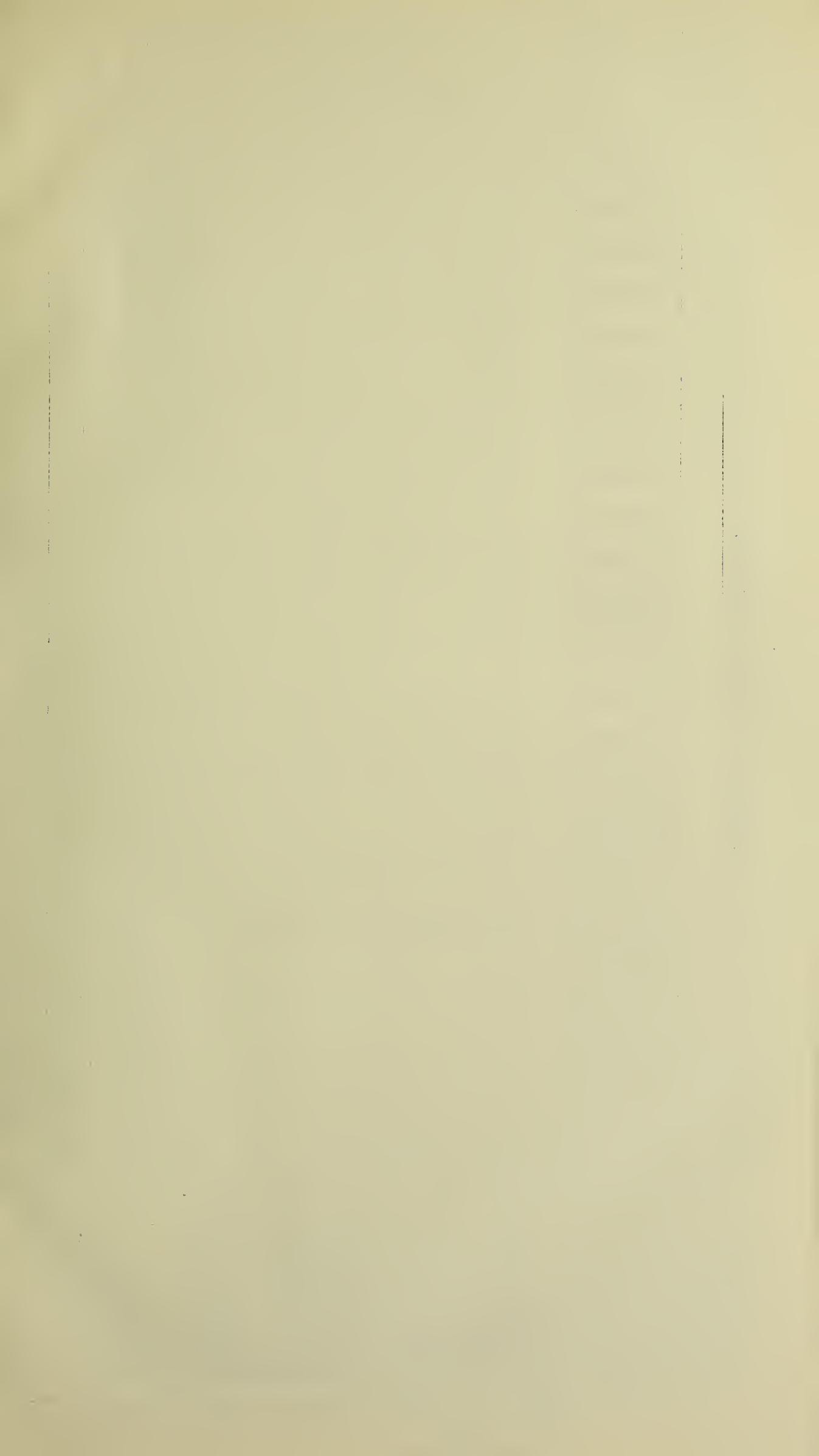


TABLE VII.

ANALYSIS OF DEATHS REGISTERED.

CAUSES OF DEATH.	AGE.																		SEX.		TOTAL							
																			Males.	Females.								
	Under 1 year.	1 year and under 2 years.	2 years and under 3 years.	3 years and under 4 years.	4 years and under 5 years.	Total under 5 years.	5 years and under 10 years.	10 years and under 15 years.	15 years and under 20 years.	20 years and under 25 years.	25 years and under 30 years.	30 years and under 35 years.	35 years and under 40 years.	40 years and under 45 years.	45 years and under 50 years.	50 years and under 55 years.	55 years and under 60 years.	60 years and under 65 years.	65 years and under 70 years.	70 years and under 75 years.		75 years and under 80 years.	80 years and under 85 years.	85 years and over.	Age not known.			
I. GENERAL DISEASES.																												
1. Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
2. Typhoid Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
3. Pyrexia (origin uncertain)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
4. Scarlet Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
5. Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
6. Diphtheria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
7. Group ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
8. Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
9. Whooping-cough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
10. Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
11. Influenza	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
Total	70	70	23	6	6	175	12	..	2	3	..	2	2	6	7	3	8	7	5	7	8	5	2	..	..	127	127	254
12. Other epidemic diseases	..	1	..	..	..	2	..	..	..	1	..	..	2	..	..	..	1	..	..	..	1	..	..	..	..	..	1	7
13. Purulent infection and septicæmia	..	..	..	..	..	3	..	..	48	75	..	56	34	31	27	21	25	11	6	2	..	1	..	..	..	..	189	214
14. Tuberculosis of the lung	..	..	..	..	..	7	..	..	2	2	..	3	1	3	..	..	2	..	1	..	..	1	..	..	..	..	13	12
15. Acute miliary tuberculosis	..	..	..	..	..	22	..	..	8	3	..	1	1	2	..	..	..	..	1	..	..	..	..	..	..	..	25	22
16. Tuberculous meningitis	..	..	..	..	..	9	..	..	2	1	..	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	9	12
17. Abdominal tuberculosis	..	..	..	..	..	4	..	..	3	5	8	..	4	1	2	2	1	..	1	..	..	..	..	..	..	..	18	20
18. Other forms of tuberculosis	..	..	..	..	..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	9
19. Rickets	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	5
20. Syphilis	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	235	273
21. Cancer and other malignant tumors	..	..	..	..	..	2	..	..	..	..	..	7	21	21	36	58	78	87	75	57	46	11	..	..	..	..	8	7
22. Other tumors	..	..	..	..	..	..	..	..	2	1	..	1	1	3	..	..	1	2	1	..	..	..	..	..	..	..	7	20
23. Acute articular rheumatism	..	..	..	..	..	..	..	..	4	2	..	1	3	..	..	..	3	3	2	3	3	..	..	..	..	..	6	10
24. Chronic rheumatism and gout	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	5	6	3	3	..	..	..	..	..	9	18
25. Diabetes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	9
26. Exophthalmic goitre	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	9
27. Debility	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	7
28. Leuchæmia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	1
29. Anæmia, chlorosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	20
30. Other general diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	5
31. Alcoholism (acute or chronic)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
32. Chronic lead poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	23	18	12	9	7	69	20	26	71	96	74	75	76	68	74	97	128	123	100	71	54	15	5	..	..	576	666	1242

TABLE VII. (continued).

	AGE.																	SEX.		TOTAL.									
	Under 1 year.	1 year and under 2 years	2 years and under 3 years.	3 years and under 4 years.	4 years and under 5 years.	Total under 5 years.	5 years and under 10 years	10 years and under 15 years	15 years and under 20 years.	20 years and under 25 years.	25 years and under 30 years.	30 years and under 35 years.	35 years and under 40 years.	40 years and under 45 years.	45 years and under 50 years.	50 years and under 55 years.	55 years and under 60 years.	60 years and under 65 years.	65 years and under 70 years.		70 years and under 75 years	75 years and under 80 years.	80 years and under 85 years.	85 years and over.	Age not known.	Males.	Females.		
II. DISEASES OF THE NERVOUS SYSTEM AND OF THE ORGANS OF SENSE.	3	1	..	2	..	6	1	..	2	..	..	2	1	5	1	1	..	3	..	1	..	..	..	..	..	5	..	7	
	..	1	..	..	..	1	1	..	2	..	..	4	2	..	5	..	..	..	..	..	..	..	..	..	..	15	11	26	
	11	5	..	3	1	17	5	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19	22	41		
	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2		
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..		
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3	6		
	7	..	..	..	..	7	..	..	..	1	..	..	3	1	13	22	28	38	53	59	28	17	5	..	113	164	277		
	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	..	1	3	3	1	..	..	..	4	5	9		
	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	3	3	3	
	..	16	..	..	..	70	..	..	2	1	..	2	1	2	1	2	..	..	..	2	1	..	..	..	..	2	8	15	
	53	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	39	31	70		
	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	
	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	
	..	..	1	..	..	2	..	1	1	1	1	1	1	1	2	1	1	1	2	1	2	..	..	..	..	9	6	15	
	1	1	..	1	..	3	..	2	..	2	..	..	..	..	1	1	2	..	..	..	..	..	..	..	..	7	..	12	
	Totals of nervous system, etc.	75	24	1	5	1	106	12	7	9	4	5	12	10	14	26	32	32	44	62	63	30	17	5	..	226	264	490	
	III. DISEASES OF THE CIRCULATORY SYSTEM.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		..	..	..	..	..	..	1	..	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	3	1	4
		..	..	..	..	..	1	2	..	5	4	2	3	..	2	3	2	4	2	4	3	1	..	..	..	..	12	26	38
6		1	2	..	..	9	10	7	8	7	8	21	11	26	48	67	106	145	180	147	95	38	16	..	417	482	899		
..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	2	2	..	..	1	..	5	3	8		
..		..	..	..	..	..	..	..	..	..	..	1	..	3	1	8	8	18	19	14	13	10	3	..	47	51	98		
..		..	..	..	..	..	..	1	..	..	1	4	2	2	6	9	12	16	13	20	11	4	3	..	49	55	104		
..		..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3		
..		..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	1	1	1	..	..	..	..	3	3	6		
..		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2	3	3	
Totals of circulatory system		6	1	2	1	..	10	13	8	13	11	12	30	13	36	59	86	133	184	171	187	122	52	23	..	538	625	1163	

TABLE VII. (continued).

CAUSES OF DEATH.	AGE.																SEX.										
	Under 1 year.	1 year and under 2 years.	2 years and under 3 years.	3 years and under 4 years.	4 years and under 5 years.	Total under 5 years.	5 years and under 10 years.	10 years and under 15 years.	15 years and under 20 years.	20 years and under 25 years.	25 years and under 30 years.	30 years and under 35 years.	35 years and under 40 years.	40 years and under 45 years.	45 years and under 50 years.	50 years and under 55 years.	55 years and under 60 years.	60 years and under 65 years.	65 years and under 70 years.	70 years and under 75 years.	75 years and under 80 years.	80 years and under 85 years.	85 years and over.	Age not known.	Males.	Females.	
IV. DISEASES OF THE RESPIRATORY SYSTEM.	3	7	2	1	2	3	..	..	2	1	3	..	..	8	6	16	23	24	41	44	32	11	11	..	..	1	2
	31	..	..	..	..	43	..	..	..	..	1	1	2	10	6	12	8	27	18	29	17	6	2	..	120	149	
	117	82	27	5	6	237	9	..	..	..	..	1	1	5	4	4	7	8	8	4	4	1	..	..	65	74	
	37	21	5	7	2	72	..	1	3	5	3	11	10	6	7	15	19	11	17	12	8	5	6	..	152	142	
	..	..	1	..	..	1	..	..	1	1	1	1	..	3	3	2	1	1	2	1	8	5	6	..	115	96	
	..	..	..	..	..	..	..	..	..	..	..	1	..	1	4	4	..	1	1	..	1	..	..	..	1	..	
	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	1	2	1	..	..	..	10	8	
	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	..	1	..	..	..	1	..	
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	10	5	
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	..	
66. Other diseases of the respiratory system (tuberculosis excepted) ..	4	4	1	1	..	10	1	..	2	2	1	2	5	1	5	2	1	1	1	2	1	..	..	..	16	21	
Totals of respiratory system ..	192	114	36	14	10	366	10	1	9	9	9	20	20	34	35	55	59	73	89	94	63	23	19	..	491	497	
V. DISEASES OF THE DIGESTIVE SYSTEM.	..	..	..	..	..	..	..	..	1	..	..	3	2	3	3	6	5	2	1	1	..	..	..	..	..	18	9
	13	1	..	2	1	16	..	..	..	1	..	..	..	..	2	2	..	5	3	2	2	..	..	..	..	18	15
	86	16	3	2	1	108	2	2	8	..	4	1	..	4	1	1	3	3	2	2	1	1	1	..	72	55	
	4	1	..	..	..	5	..	2	..	1	..	3	3	2	5	5	4	8	5	7	1	1	1	..	21	12	
	3	1	..	..	..	4	1	..	..	1	..	..	2	4	2	4	2	5	5	7	1	2	1	..	23	29	
	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	5	3	2	..	1	..	..	17	16	
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals of digestive system ..	110	21	4	4	1	140	9	3	10	4	4	8	8	18	18	24	21	29	22	21	8	4	5	..	194	162	
VI. NON-VENEREAL DISORDERS OF THE GENITO-URINARY SYSTEM.	1	1	..	..	2	4	1	1	1	4	1	2	1	6	3	5	10	3	5	4	1	2	..	..	27	54	
	..	1	..	..	..	1	1	..	..	1	7	3	3	4	5	7	8	8	8	6	2	1	..	..	27	35	
	..	..	..	..	..	..	..	1	..	1	..	1	1	2	1	..	3	..	2	5	1	..	..	..	30	65	
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	1	..	..	..	7	18	
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	2	2	..	..	1	..	13	2	
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	3	4	11	8	2	..	..	25	15	
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	
	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	..	..	2	1	..	..	..	..	1	6	
	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5
	Totals of genito-urinary system ..	1	2	..	..	2	5	2	2	2	6	9	6	5	16	9	15	23	15	23	31	15	7	1	..	103	89
Totals of genito-urinary system ..	1	2	..	..	2	5	2	2	2	6	9	6	5	16	9	15	23	15	23	31	15	7	1	..	103	89	

TABLE VII. (continued).

	AGE.																SEX.											
	Under 1 year.	1 year and under 2 years.	2 years and under 3 years.	3 years and under 4 years.	4 years and under 5 years.	Total under 5 years.	5 years and under 10 years.	10 years and under 15 years.	15 years and under 20 years.	20 years and under 25 years.	25 years and under 30 years.	30 years and under 35 years.	35 years and under 40 years.	40 years and under 45 years.	45 years and under 50 years.	50 years and under 55 years.	55 years and under 60 years.	60 years and under 65 years.	65 years and under 70 years.	70 years and under 75 years.	75 years and under 80 years.	80 years and under 85 years.	85 years and over.	Age not known.	Males.	Females.	TOTAL	
VII. PUERPERAL STATE.																												
89. Accidents of pregnancy	..	..	..	..	..	..	..	..	..	1	1	4	3	2	..	..	..	..	..	..	..	..	..	..	..	..	11	
90. Puerperal hemorrhage	..	..	..	..	..	..	..	..	..	4	3	6	3	..	..	..	..	..	..	..	..	..	..	..	..	..	16	
91. Other accidents of labour	..	..	..	..	..	..	..	..	..	1	2	2	2	2	..	..	..	..	..	..	..	..	..	..	..	..	9	
92. Puerperal septicæmia	..	..	..	..	..	..	..	..	..	6	4	4	1	1	..	..	..	..	..	..	..	..	..	..	..	..	16	
93. Puerperal albuminuria and convulsions	..	..	..	..	..	..	..	..	..	3	1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	7	
Totals of puerperal state	..	..	..	..	..	..	..	..	..	15	11	17	11	5	..	..	..	..	..	..	..	..	..	..	..	..	59	
VIII. DISEASES OF THE SKIN AND OF THE CELLULAR TISSUE.																												
94. Gangrene	1	..	..	..	..	1	..	..	..	..	..	..	..	2	..	..	..	2	5	5	3	..	..	..	12	6	18	
95. Acute Abscess	..	1	..	..	..	1	..	..	..	..	2	..	..	..	..	1	..	..	1	1	1	..	..	..	3	1	4	
96. Other diseases of the skin	6	1	1	..	..	7	..	..	..	1	..	..	..	..	..	1	1	2	1	1	..	..	..	..	9	4	13	
Totals of skin tissue	7	1	1	..	..	9	..	..	..	1	2	..	..	2	..	1	1	4	6	6	6	3	..	..	24	11	35	
IX. DISEASES OF THE BONES AND OF THE ORGANS OF LOCOMOTION.																												
97. Diseases of the bones (tuberculosis excepted)	..	1	..	1	..	2	2	2	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	5	3	8
98. Diseases of the joints (tuberculosis and rheumatism excepted)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1	
99. Amputations	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
100. Other diseases of the organs of Locomotion	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1	
Totals of bones and organs of locomotion	..	1	..	1	2	2	2	2	..	..	..	..	..	1	..	..	2	1	..	..	..	..	..	..	6	4	10	
X. MALFORMATIONS.																												
101. Congenital malformations (stillbirths not included)	34	..	..	..	..	34	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20	16	36	
XI. DISEASES OF EARLY INFANCY.																												
102. Congenital debility icterus, and sclerema	314	6	..	..	1	321	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	174	148	322	
103. Other accidents at birth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4	
104. Inattention at birth	4	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4	
105. Other diseases peculiar to early infancy	9	..	..	..	..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	4	9	
Totals of early infancy	327	6	..	..	1	334	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	181	154	335	
XII. OLD AGE.																												
106. Senility	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	6	22	54	92	93	63	..	120	214	334	

TABLE VII. (continued).

CAUSES OF DEATH.	AGE.																SEX.		TOTAL									
	Under 1 year	1 year and under 2 years.	2 years and under 3 years.	3 years and under 4 years.	4 years and under 5 years.	Total under 5 years.	5 years and under 10 years.	10 years and under 15 years.	15 years and under 20 years.	20 years and under 25 years.	25 years and under 30 years.	30 years and under 35 years.	35 years and under 40 years.	40 years and under 45 years.	45 years and under 50 years.	50 years and under 55 years.	55 years and under 60 years.	60 years and under 65 years.		65 years and under 70 years.	70 years and under 75 years.	75 years and under 80 years.	80 years and under 85 years.	85 years and over.	Age not known.	Males.	Females.	
XIII. AFFECTIONS PRODUCED BY EXTERNAL CAUSES.																												
107. Suicide by poison ..	..	..	..	..	..	..	..	..	..	2	..	2	1	3	3	..	4	..	2	..	..	..	..	..	..	14	3	17
108. Suicide by asphyxia ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	3	..	..
109. Suicide by hanging or strangulation ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
110. Suicide by drowning ..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..
111. Suicide by firearms ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	4	..	..
112. Suicide by cutting or piercing instruments ..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	..	3	..	3
113. Other suicides ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
114. Poisoning by food ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
115. Other acute poisonings ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
115a. Anaesthesia ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..
116. Burns ..	3	5	4	1	..	13	2	..	1	1	1	..	..	..	..	2	1	1	..	..	..	2	..	..	..	13	1	1
117. Absorption of deleterious gases ..	1	..	..	..	..	1	..	1	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	1	1
118. Accidental drowning ..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	4	..	..
119. Traumatism by cutting or piercing instruments ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
120. Traumatism by fall ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
121. Traumatism by machines ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
122. Excessive cold ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
123. Effects of heat ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
124. Homicide by firearms ..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2
125. Homicide by cutting or piercing instruments ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
126. Homicide by other means ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
127. Fractures (causes not specified) ..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	1	2	5	5	3	2	..	..	5	11	16
128. Other external violence ..	..	..	1	..	2	3	7	1	3	4	1	3	2	5	3	5	9	2	5	2	3	2	1	..	..	48	13	61
128a. Post Operative shock ..	..	1	..	..	..	1	..	..	..	..	..	..	1	..	..	1	1	1	..	..	..	..	..	..	3	4	7	7
Totals of affections by external causes ..	4	6	5	1	2	18	11	1	5	8	4	6	8	9	8	11	19	6	12	9	4	8	3	..	105	45	150	150
XIV. ILL-DEFINED DISEASES.																												
129. Ill-defined organic disease ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
130. Sudden death ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
131. Cause of death not specified or ill-defined ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1
Totals of ill-defined diseases ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1
Totals from all causes ..	849	264	84	41	30	1268	91	52	122	157	130	176	153	209	236	324	430	492	513	543	399	224	126	..	2712	2933	5645	5645

TABLE VIII

Shewing the Number of Deaths registered as having been caused by Phthisis and Diseases of the Respiratory Organs during the twenty-one years, 1910-1931 :—

Year.		Population	Phthisis	Rate per 1,000	Diseases of the Respiratory System			Total Chest Affections
					Pneumonia	Others	Total	
1910	..	391,167	825	2.1	622	916	1,538	2,363
1911	..	386,449	802	2.1	468	788	1,256	2,058
1912	..	391,974	802	2.0	799	981	1,780	2,582
1913	..	396,000	844	2.1	665	868	1,533	2,377
1914	..	399,000	836	2.1	701	929	1,630	2,466
1915	..	403,000	813	2.0	738	929	1,667	2,480
1916	..	390,000	830	2.1	506	670	1,176	2,006
1917	..	393,000	932	2.4	614	825	1,439	2,371
1918	..	393,000	1,051	2.7	1,412	1,608	3,020	4,071
1919	..	401,000	853	2.1	712	1,104	1,816	2,669
1920	..	413,000	762	1.8	800	766	1,566	2,328
1921	..	420,000	677	1.6	511	520	1,031	1,708
1922	..	425,000	624	1.5	594	648	1,242	1,866
1923	..	429,000	571	1.3	564	573	1,137	1,708
1924	..	434,000	605	1.4	623	720	1,343	1,948
1925	..	438,000	575	1.3	517	646	1,163	1,738
1926	..	416,000	570	1.4	516	630	1,146	1,716
1927	..	416,000	515	1.2	479	526	1,005	1,520
1928	..	415,151	499	1.2	521	542	1,063	1,562
1929	..	415,151	485	1.2	680	761	1,441	1,926
1930	..	415,151	436	1.0	357	482	839	1,275
1931	..	415,151	452	1.1	518	479	997	1,449

GENERAL PROVISIONS OF HEALTH SERVICES FOR THE AREA.

Hospitals Provided or Subsidised by the Sanitary Authority or by The County Council.

Purdysburn Fever Hospital.

Purdysburn Fever Hospital, with accommodation for 168 patients, was opened for the reception of persons suffering from infectious diseases, in August 1906.

The Hospital is built on the pavilion system, separate blocks being provided for each of the notifiable infectious diseases, with separate administration block, nurses' home, etc., and a suitable isolation block.

The accommodation soon proved insufficient, and in the year 1911 the Public Health Committee decided to increase the accommodation by two additional two-storey buildings and by enlarging the diphtheria block. This extension provided accommodation for 100 beds, bringing the total up to 268 beds. Even with the additional accommodation thus provided, the hospital on several occasions, especially during the recurring epidemics of scarlet fever, proved to be far short of the city's requirements, and in the years 1922 and 1923 the Corporation authorised the enlargement of Nos. 3 and 4 pavilions respectively, together with the provision of additional accommodation for the staff and a new laboratory. These extensions brought the accommodation up to 325 beds.

There is a Smallpox Hospital situated in the same grounds but completely isolated in its own compound. It is self-contained having accommodation for 50 patients in four pavilions with separate administration block and nurses' home and an isolation pavilion.

The staff at the end of the year consisted of:—

- 1 Medical Superintendent.
- 1 Resident Medical Officer.
- 1 House Physician.
- 1 Steward.
- 1 Clerk.
- 1 Storekeeper.
- 1 Engineer.
- 2 General Mechanics.
- 3 Motor Drivers.
- 1 Van Man.
- 4 Firemen.
- 1 Pumping Station Engine Man.
- 5 Day Porters.
- 1 Gate Porter.
- 1 Night Porter.
- 1 Disinfecter.
- 1 Foreman Gardener.
- 3 Groundsmen.
- 1 Matron.
- 1 Assistant Matron.
- 1 Night Superintendent.
- 1 Night Superintendent (joint).
- 1 Housekeeper.
- 9 Ward Sisters.
- 33 Nurses.
- 1 Seamstress.
- 1 Head Laundress.
- 5 Laundry Maids.
- 1 Cook.
- 2 Kitchen Maids.
- 5 General Maids.
- 10 Ward Maids.

Union Fever Hospital.

The accommodation for patients in the Union Fever Hospital is 450 beds. The number of patients treated during the year 1931 was 1,594

The Hospital is under the control of the Belfast Board of Guardians.

The following is a list of the diseases from which the patients were suffering :

Typhoid Fever	..	..	..
Measles	..	..	..
Scarlatina	..	..	..
Whooping Cough	..	..	..
Mumps	..	..	..
Chicken Pox	..	..	..
Erysipelas	..	..	..
Diphtheria	..	..	..
General Medical	..	..	..
Rubella	..	..	..
Pneumonia	..	..	..
Tonsilitis	..	..	..
Epidemic Encephalitis	..	..	..
Chronic Encephalitis	..	..	..
T.B. Meningitis	..	..	..
Influenza	..	..	..
Cerebro—Spinal Fever	..	..	..
Tetanus	..	..	..
Acute Poliomyelitis	..	..	..
Pneumococcal Meningitis		..	..

The principal hospitals available for the area which do not come within the scope of "grant" are as follows. All these are honoured and esteemed by all men who realise the admirable work carried out from year to year therein :

The Royal Victoria Hospital.

The Mater Infirmorum Hospital.

Queen Street Children's Hospital.

The Benn Hospital.

Samaritan Hospital.

Hospital for Nervous Diseases, Claremont Street.

Ophthalmic Hospital, Great Victoria Street.

The Throne Hospital.

It should be understood that this list is not necessarily a complete one.

Tuberculosis.

While the Reports on Graymount and Whiteabbey Sanatoria, by my colleagues Drs. Trimble and Walker, will be found in the body of this Report, the following particulars will be of interest :—

Municipal Sanatorium, Whiteabbey.			Municipal Hospital for Tuberculosis Children, Graymount, and Open-air Day School.
Extent	..	..33 acres.	15 acres and 2 roods.
No. of Beds	..	285 (all forms).	58 (non-pulmonary) 150 Places for delicate contacts at Day School.
No. of Teachers.	..	Two	Four.
Hours of School	..	9-15 a.m.—3-15 p.m.	9-30 a.m.—2-30 p.m. Winter. 9-30 a.m.—3-30 p.m. Summer. (including rest hour and dinner).
Accommodation for Nurses	..	16 bedrooms and 3 sitting rooms	1 bed-sitting room 2 sitting rooms. 7 bedrooms.
Visiting Days	..	Wednesdays and Sundays 2 till 4 p.m.	Wednesdays and Sundays. 2 till 4 p.m.

STAFF COMPLEMENT.

GENERAL STAFF.				ENGINEERING STAFF. *			
Medical Superintendent	..		1	Fitter-in-charge	..	..	1
Assistant Medical Officers	..		2	Firemen	..	..	2
Visiting Physician	..	..	1	Assistant	..	..	1
Visiting Dental Surgeon	..		1				
Visiting Chaplains	..	..	3	OUTDOOR STAFF.			
				Gardener	..	..	1
NURSING STAFF.				Assistant Gardener	..	..	1
Matron	..	..	1	Carpenter	..	..	1
Sisters	..	..	5	Assistant to Carpenter	..	..	1
Staff Nurses	..	..	6	Porters	..	..	3
Probationers	..	..	22	Labourers	..	..	5
CLERICAL STAFF.				DOMESTIC STAFF.			
Steward	..	..	1	Sewing Mistress	..	..	1
Clerks	..	..	2	Cooks	..	..	2
				Maids, etc.	..	..	19
OPEN-AIR SCHOOL.							
Mistresses	..	..	2				

MATERNITY.

Maternity Hospital, Townsend Street.

A grant of £1,000 per annum is paid by the Corporation to this hospital. There are four wards and two rooms containing 27 beds. For ante-natal cases there are 3 couches, one dispensary sister being in charge. The staff consists of the matron, intern sister (day), intern sister (night), two staff nurses, and twelve probationers.

As regards payment for treatment, maternity patients are charged at the rate of six shillings per day. In all cases, however, where the circumstances are poor, no charge is made—no poor woman has ever been turned away.

The staff of surgeon accoucheurs consists of four honorary and two resident medical officers, the senior of whom is the tutor. In addition there is one non-resident registrar, also one physician to Infants' Department.

Close co-operation exists between this hospital and the Public Health Department. Practically every week a telephone message is received with reference to some case or other in which assistance can be given by the Department in "following up." Such may be cases in which a woman leaves before the doctors wish her to do so; this is an extremely foolish thing to do as the life or health of the mother may thus be imperilled. The Townsend Street Maternity Hospital is justly honoured and respected for the high excellence of the work encompassed. With the passing of time and the increasingly high reputation of this institution with inevitable increased calls upon its accommodation, it has been felt necessary to build a larger hospital and this is now approaching completion within the grounds of the Royal Victoria Hospital.

The accommodation to be provided consists of 100 beds. A ground floor ward will contain 44 maternity beds and a separate ward of 20 beds will be used by paying patients. Every modern improvement will be found: the building and arrangements are admirable. Nurseries, Ante-Natal Out-Patients, Ante-Natal Ward, Isolation Ward, Mothers' Instruction Room, Work Room and Rest Room, Class Room, Study Rooms, and a Laboratory will form part of a great whole.

ANTE NATAL REPORT FOR THE YEAR ENDED 31st DECEMBER, 1931.

Total number of new patients	..	..	..	..	..	1,142
do. re-attendances	..	..	..	..	..	3,326
						—
Total examinations	..	..	..	..	..	4,468
						—

The Ante-Natal Patients admitted to the Hospital were as follows :—

For confinement	..	..	..	..	..	352
treatment and confinement	..	..	..	..	..	65
treatment	..	..	..	..	..	199
operations	..	..	..	..	..	37
						—
						653
Non Ante-natal patients admitted to Hospital	..	..	..	..	..	212
						—
Total admissions during year	..	..	..	..	..	865
						—
Ante-Natal patients confined in District	..	..	..	..	..	171
Non Ante-Natal patients do.	..	..	..	..	..	36
						—
						207
						—

Thorndale Home (The Salvation Army).

This home which receives a grant of £300 per annum from the Corporation is situated in its own grounds, Duncairn Avenue. The site is somewhat unique this institution being relatively isolated on rising ground, thus receiving the maximum of sunshine and air perflation. The assistance of the lady in charge, Major Walton, was sought in the preparation of these notes.

Reports on the various Sections of work carried on at above home during 1931.

There are the following Departments :—

- (1) A Maternity Home for the unmarried mother.
- (2) Wards for Private patients.
- (3) An Industrial Home for young girls.
- (4) An After-care Home for those who have gone through our hands.

Maternity Home. There is accommodation for 23 expectant unmarried mothers, and the following is a brief review of the work done during 1931 in this department.

- 62 Unmarried Mothers admitted.
- 56 Confinements took place.
- 23 Girls sent to situations.
- 22 Girls sent home to friends.
- 16 Babies sent to " Nurse Mothers."
- 2 Babies died.
- 18 Girls in Home end of year.
- 13 Babies in Home end of year.

The majority of the patients were kept in the home from four to six months after the birth of child so that the little one might be breast fed and by that means give it a fair chance at the beginning of its life.

Private Patients' Department. 45 confinements took place in this connection. Some of the patients were unable to come into the Home for domestic reasons and were attended on the District. Attached also to this department are the Ante-natal and Baby Clinics for the weighing of the little ones and the giving of advice generally to mothers.

Aftercare Home. The secret of success is keeping in touch with the girls after they have left the Home. At this department the girls can return when they have their free time for a holiday, they may bring their little ones from the " Nurse Mothers " and remain until it is time for them to return to their situations. An Officer is set apart for this work and arranges to have Tea Table talks with them. The visits per month average over 766.

Shelter for Poor and Stranded Women. Here there is accommodation for 30 women. Temporary help is given and situations found, and also many free beds and meals are provided.

The Belfast Midnight Mission and Rescue and Maternity Home.

This Home was founded in 1860 and is situated at No. 29 Malone Place. This institution is carrying out work of a high order, and receives a grant of £300 per annum. 157 women and 7 children were admitted to the Rescue Ward during the year and received one or more night's lodging and food—some indeed, remained up to fourteen days in residence.

During the year there were 130 confinements, 39 of which were private patients (married); 11 babies were still-born; 3 infants died, and 2 mothers died; 48 women were attended on the district by the nurses. 93 expectant mothers were seen at the ante-natal clinic by Dr. Robb, with 215 attendances.

Infants born in the home are kept in the institution until such time as arrangements can be made for a foster mother, where such is desired. The accommodation is made up of 27 beds for unmarried mothers placed in five wards; one of these has 14 beds, another has 7. Two rooms have 3 beds each for private patients.

The ante-natal department consists of one examination room and two waiting rooms.

A fee of two guineas per week is charged for private patients.

The staff consists of the matron and three nurses holding the C.M.B. Certificate. There are also four probationers.

The Ulster Hospital, Templemore Avenue.

This excellent Hospital receives a grant of £250 from the Corporation annually. During 1931 there were 964 intern admissions to the Children's department while 8,333 out-patients were treated. 262 women were admitted and 1,839 out-patients received attention. The new cases in the Maternity department numbered 133. 1,819 operations were performed. For Maternity cases there are two beds in one ward; there are ten additional beds in another ward for women. For children the accommodation consists of 40 cots in two wards; there are two balconies; one isolation ward and a sun parlour.

The Ante-Natal cases treated in this Hospital during the year were as follows:

New cases in Out-patient Department	..	201
Return cases in Out-patient Department	..	436
Cases admitted to Hospital	..	69

Out of the 964 intern admissions to the Children's Department, 67 died, giving a death rate of only 6.95 per cent.

The resident staff consists of:—

- 2 House Surgeons.
- 1 Matron.
- 3 Sisters.
- 1 Surgical Sister.
- 1 District Sister.
- 18 Probationers.
- 1 Masseuse (part-time).
- 1 Sister Tutor (part-time).

St. Joseph's Babies' Home.

This institution receives a grant of £200 from the Corporation annually. The staff consists of a medical officer, a qualified matron, and one qualified nurse ; there is also a staff of probationer nurses.

The infants admitted here are mostly illegitimate and a proportion of these come from outside the city. The following are the statistics for 1931.—

Cases admitted in 1931.	..	..	33
Deaths in Home among cases admitted in 1931.	3	(illegitimate)	
Deaths in Home during 1931 of admissions prior to 1931.	..	..	0
			—
TOTAL DEATHS	..	..	3
Deaths occurring in 1931 in other Institutions to which cases were removed from this Home.	3		
No. of cases of non-resident mothers of the City admitted during 1931.	..	..	14
Percentage of deaths of children admitted and died in Home during 1931.	..	..	9%

Of the 33 children admitted during the year 9 were born outside the City.

AMBULANCE FACILITIES.

(a) **For Infectious Cases.**

(b) **For Non-Infectious and Accident Cases.**

(a) Infectious Cases.

Three ambulances (the property of the Belfast Corporation and garaged at Purdysburn Fever Hospital) are available for the conveyance of Infectious Diseases cases to this Hospital.

Three ambulances (the property of the Belfast Board of Guardians and garaged at Union Workhouse) are available for the conveyance of all stretcher cases to the Union Hospitals. These cases include the removal of the minor Infectious Diseases, such as Measles, Whooping Cough, etc.

All the above ambulances are disinfected on return after each journey.

(b) Non-Infectious Cases.

Four ambulances the property of the Belfast Corporation and garaged at the Central and Branch Fire Brigade Stations are available for the conveyance of non-infectious cases. Each removal (except accident cases) must be so certified by a medical practitioner. These ambulances are at the call of any person in the case of accidents. They can also be required to remove a bedridden patient to or from a Nursing Home. There is a fee of one guinea charged where the person requisitioning the ambulance is able to pay.

CLINICS AND TREATMENT CENTRES.

Child Welfare Centres.

DAY	CENTRE	TIME	MEDICAL OFFICER.
Monday	.. Danube Street	.. 2—5 p.m.	.. Dr. Darling.
	.. Donegall Road	.. 3—5 p.m.	.. Dr. Pollock.
	*Mervue Street	.. 2—5 p.m.	.. Dr. Watson.
Tuesday	.. Dee Street	.. 2—5 p.m.	.. Dr. Pollock.
	.. Falls Road	.. 2—5 p.m.	.. Dr. Watson.
	.. Charlotte Street	.. 2—5 p.m.	.. Dr. McNeill.
Wednesday	.. York Street	.. 2—5 p.m.	.. Dr. Watson.
	*Woodstock Road	.. 3—5 p.m.	.. Dr. Pollock.
Thursday	.. Shankill Road	.. 2—5 p.m.	.. Dr. Darling
	*Dee Street	.. 2—5 p.m.	.. Dr. Pollock.
	*Byron Street	.. 2—5 p.m.	.. Dr. Watson.
Friday	*Gilford Street	.. 2—5 p.m.	.. Dr. Pollock.
	*Shankill Road	.. 2—5 p.m.	.. Dr. Watson.

*Additional Centres commenced 1st October

Ante-Natal Clinics.

* Commenced 1st October.

DAY	CENTRE	TIME	MEDICAL OFFICER.
Monday	.. *Danube Street	.. 10 a.m. till 12 noon	.. Dr. Pollock.
	.. *Donegall Road	.. 2—3 p.m.	.. do.
Tuesday	.. *Dee Street	.. 10 a.m. till 12 noon	.. do.
Wednesday	.. *York Street	.. 10 a.m. till 12 noon	.. do.
	*Woodstock Road	.. 2—3 p.m.	.. do.
Thursday	.. *Shankill Road	.. 10 a.m. till 12 noon	.. do.
Friday	.. *Gilford Street	.. 10 a.m. till 12 noon	.. do.
Wednesdays and Saturdays	Belfast Maternity Hospital .. Townsend Street	9-30 a.m. till 12 noon	do.
Do.	Ulster Hospital .. Templemore Avenue.	do.	

Tuberculosis Clinics.

Central Tuberculosis Institute, Durham Street.
Tuberculosis Institute, 225 Albertbridge Road.

.. Daily 9-30 a.m. till 5 a.m.
... Daily 9-30 a.m. till 5 a.m.

SCHOOL CLINICS.

Central Clinic, Old Town Hall, Victoria Street.

ACCOMMODATION.	DOCTOR'S SESSIONS.
Inspection Clinic.	Daily, 2—5 p.m. (except Saturdays)
Minor Ailments Clinic.	Tuesdays and Thursdays at 3 p.m., Saturdays at 10 a.m.
Eye, Ear, Nose and Throat Clinics.	Mondays, Tuesdays, Wednesdays, and Thursdays at 10 a.m. Alter- nate Tuesdays and Thursdays— Operations.
Tonsils and Adenoids Operation Clinic.	Every alternate Tuesday and Thursday.
Dental Clinics.	Daily (except Saturdays) 9-30 a.m.
Artificial Light Clinic.	Tuesdays and Fridays 9-30 a.m.
Head Cleansing Clinic.	Daily (except Saturdays) 9-30 a.m.
Special Case Clinic.	Every Saturday 9-30 a.m.

North-West Clinic, 4 Crumlin Road.

Inspection Clinic.	Daily (except Saturdays) 2—5 p.m.
Minor Ailments Clinic.	Tuesdays, Thursdays, 3 p.m. Saturdays 10 a.m.
Eye (Tuesdays, 10 a.m.) Nose and Throat (Saturdays 10 a.m.) Clinics.	
Dental Clinics.	Daily (except Thursdays and Saturdays) 9-30 a.m.
Artificial Light Clinic.	Mondays 9-30 a.m., Thursdays 9-30 a.m.
Head Cleansing.	Daily (except Saturdays) 9-30 a.m.
Special Case Clinic.	Every Saturday 9-30 a.m.

Ballymacarrett Clinic, The Mount.

Inspection Clinics.	Mondays, Wednesdays, Thursdays and Fridays, 2—5 p.m.
Minor Ailments Clinics.	Tuesdays and Thursdays 3 p.m. Saturdays 10 a.m.
Eye (Tuesdays, 2 p.m.) Nose and Throat (Fridays 2 p.m.) Clinics.	
Dental Clinic.	Mondays, Wednesdays, Thursdays and Fridays 9-30 a.m.
Head Cleansing Clinic.	Daily at 9-30 a.m. (except Saturdays.)
Special Case Clinic.	Saturdays at 9-30 a.m.

Venereal Diseases Clinics.

Royal Victoria Hospital, Grosvenor Road.	Daily 9 a.m.—11 a.m. Mondays 7 p.m.—8 p.m.
Mater Infirmorum Hospital, Crumlin Road.	Tuesdays and Saturdays 9-30 a.m.—11-30 a.m. Thursdays 8 p.m.—10 p.m.
Union Infirmary, Lisburn Road.	Daily from 11 a.m., for admissions.

STAFF.**Medical Superintendent Officer of Health and Port Medical Officer :**

CHARLES SAMSON THOMSON, M.D., CH.B., D.P.H. (Hons), B.Hy. (Hons)
F.R.S.I., F.R.I.P.H., F.I.H. (Lecturer in Practical Public Health Administration
and Intern Examiner, Queen's University, Belfast).

**Assistant Medical Superintendent Officer of Health, Assistant Port Medical Officer,
and Executive Sanitary Officer :**

SAMUEL BARRON, M.R.C.P., D.P.H.

Chief Tuberculosis Officer :

ANDREW TRIMBLE, M.B., B.Ch, D.P.H., J.P.

Chief School Medical Officer :

THOMAS F. S. FULTON, M.B., B.Ch., D.P.H.

Medical Superintendent, Purdysburn Fever Hospital :

A. GARDNER ROBB, M.B., B.Ch., D.P.H., Visiting Medical Officer, Belfast
Union Fever Hospital.

Resident Medical Superintendent, Municipal Sanatorium, Whiteabbey :

PERCY S. WALKER, M.D., B.Ch., D.P.H.

Visiting Surgeon, Municipal Hospital for Tuberculous Children, Graymount :

HENRY P. MALCOLM, M.C., M.B., M.Ch.

City Bacteriologist :

GEORGE F. TINSDALE, M.B., B.Ch., B.Sc.

Maternity and Child Welfare Medical Officers :

GRACE K. POLLOCK, M.B., B.Ch., B.A.O., D.P.H.
OLIVE M. DARLING, M.B., B.Ch., D.P.H. (part-time).
ANNA WATSON, M.B., B.Ch., B.A.O., D.P.H. do.
OLIVE M. ANDERSON, M.B., B.Ch., B.A.O. do.

Veterinary Inspector, Diseases of Animals Acts :

J. EWING JOHNSTON, M.B.E., M.R.C.V.S. (part-time).

City Veterinarian and Veterinary Inspector of Dairies and Cowsheds :

ALEXANDER McLEAN, M.R.C.V.S., D.V.H.

Public Analyst :

J. HAROLD TOTTON, B.A., B.Sc., F.I.C.

Assistant Tuberculosis Medical Officers :

J. SHAW, M.B., B.Ch., D.P.H.
T. R. V. IRWIN, M.B., B.Ch., D.P.H.
E. P. DEWAR, L.R.C.P. Ed.
H. McMASTER, L.R.C.P. Ed., D.P.H.

Assistant School Medical Officers :

H. A. WARNOCK, M.D., D.P.H., B.Sc.
 MAUD McKNIGHT, M.B., D.P.H.
 EILEEN H. DOWSE, M.B., D.P.H. (part-time).
 ANNA PARK, M.B., D.P.H.

Resident Medical Officers :

F. KANE, M.B., Purdysburn Fever Hospital.
 J. W. BROWNE, M.B., Purdysburn Fever Hospital.
 D. K. WATTERSON, M.D., D.P.H., Whiteabbey Sanatorium.
 A. LAVELLE, M.B., Whiteabbey Sanatorium.

Visiting Medical Officer, Whiteabbey Sanatorium :

J. C. RANKIN, M.D., B.Ch.

Ophthalmic Specialists, etc. :

T. W. G. HOGG, M.B., B.Ch. (part-time), School Medical Services.
 (Ophthalmic Specialist).
 I. A. DAVISON, B.A., M.D., D.P.H. (part-time), School Medical Services.
 (Ophthalmic Specialist).
 WM. S. GIBSON, M.B., B.Ch. (Hons.), (part-time), School Medical Services.
 (Aurist Specialist).

Dentists :

VIOLET M. E. GUY, M.B., B.Ch., B.D.S. (part-time), School Medical Services.		
C. H. MATTHEWS, L.D.S.	do.	do.
A. S. IRVINE, L.D.S.	do.	do.
T. J. GILMORE, L.D.S.	do.	do.
O. BLACK, L.D.S.	do.	Tuberculosis Department.

Health Visitors and Nurses :

1 Superintendent of Midwives.
 20 Health Visitors (9 of which were appointed in June)

Purdysburn Fever Hospital :

Matron—Miss P. E. SWARBRICK.
 Asst. Matron—Miss M. WARD.
 9 Ward Sisters.
 42 Nurses.

Whiteabbey Sanatorium :

Matron—Miss E. WOODS, S.R.N.
 5 Sisters.
 5 Staff Nurses.
 20 Probationers.

Municipal Hospital for Tuberculous Children, Graymount :

Matron—Miss A. E. LYNESS, S.R.N.
 1 Sister.
 3 Staff Nurses (temporary).
 6 Probationers.

Sanitary Staff :

- Divisional Inspector, W. J. SEFTON—South Division.
do. do. J. B. BOYD—North Division.
do. do. S. DENNISON—West Division.
do. do. T. SHANNON—East Division.
- 14 District Sanitary Sub-Officers.
3 Sanitary Sub-Officers—Factory and Workshops—1 Male and 2 Female.
2 Dairies, Cowsheds and Milkshops Inspectors (one of whom is employed part-time under Diseases of Animals Acts).
4 Sale of Food and Drugs Acts Inspectors.
6 Meat Inspectors.
1 Port Sanitary Officer.
1 Lodging House Inspector.
1 Inspector i/c. Disinfectors.
4 Assistant Disinfectors.
1 Manager, Disinfecting Station.
2 Assistant Disinfectors, Disinfecting Station.
1 Assistant (Female), at Disinfecting Station.
1 Motor Driver, at Disinfecting Station.
2 Assistant Drain Testers.
1 Storeman.
1 Time and Complaints Clerk.
1 Notice Server.

District Medical Officers of Health (part-time) who are the Dispensary Medical Officers under the Poor Law :

No.	1	Dispensary District—	Dr. H. A. SKILLEN.
	2	do.	do. Dr. D. KINLEY.
	3	do.	do. Dr. R. ENGLISH.
	4	do.	do. Dr. W. BURNS.
	5	do.	do. Dr. R. HALL.
	6	do.	do. Dr. G. SCARLETT.
	7	do.	do. Dr. D. WILSON.
	8	do.	do. Dr. C. J. MILLIGAN.
	9	do.	do. Dr. J. KENNEDY.
	10	do.	do. Dr. J. FULTON.
	11	do.	do. Dr. R. J. MUNN.
	12	do.	do. Dr. J. D. HAMILTON.
	13	do.	do. Dr. H. R. IRVINE.
	14	do.	do. Dr. W. D. DONNAN.
	15	do.	do. Dr. T. J. KERR.
	16	do.	do. Dr. T. E. HILL.

PROFESSIONAL NURSING IN THE HOME.

“The Society for Providing Nurses for the Sick Poor, Belfast,” employs a staff of eleven nurses for district work. The nurses visit the poor in their own homes and in cases of illness apply such ministrations and assistance as may be required. Members of the medical profession as well as the clergy of all denominations are invited to bring deserving cases under the notice of the District Matron, but no case can be regularly attended by a nurse unless seen by a doctor.

The Society is dependent upon voluntary subscriptions and gifts in kind to enable it to carry on the magnificent work of alleviating human suffering and caring for the sick poor.

The Corporation has no working arrangement with the Society, but any cases referred by the Medical Officers of the Public Health services have always received the willing attention of the district nurses.

The district nurses do not attend infectious cases. It is hoped that in the near future the Corporation will come to an arrangement for the home nursing of cases of Measles, Whooping Cough, etc., by the district nurses. Such an arrangement would relieve hospital strain during an epidemic and would also tend to lessen the mortality rate of these diseases.

MIDWIVES.

The Corporation does not employ or pay a subsidy to practising midwives in the city, but, under certain circumstances, pay the fees of any doctors who may be called in, in emergency cases by the midwives, under the Midwives' and Nursing Homes Acts (N.I.) 1918 and 1929.

During the year the services of medical practitioners were requisitioned by midwives in 528 emergency cases. The Corporation paid in fees £230 4s. 6d. to medical practitioners for their attendances at 115 emergency cases.

221 midwives gave the required notice of their intention to practise, of these 201 were certified by examination and 20 otherwise certified.

In order to ensure compliance with the Rules and Regulations of the Joint Nursing and Midwives' Council, the midwives were visited at intervals throughout the year by the Superintendent of Midwives, both at their homes and also at the homes of cases being attended by them. Special attention was given to the personal cleanliness of the midwives and the condition of their homes and the necessary appliances. The registers containing the entries of births attended by them were examined, and were, with very few exceptions, found to be correctly kept.

A number of breaches of the Rules and Regulations were discovered and reported to the Medical Superintendent Officer of Health or the Maternity and Child Welfare Committee.

71 cases of Ophthalmia Neonatorum occurred during the year. All of these completely recovered.

127 cases of Inflammation of Eyes occurred during the year.

76 cases of Puerperal Pyrexia occurred during the year, of these 12 died.

In cases where artificial feeding was resorted to, instructions as to the absolute necessity of cleanliness of the bottles and teats were given. Mothers were also advised to take advantage of the Child Welfare Centres, the benefits both to themselves and their infants being explained to them.

SUMMARY.

Number of Midwives who notified their intention to practise :—

Certified by examinations	..	..	201
Otherwise certified	..	..	20
			<u>221</u>

SUMMARY OF VISITS AND GENERAL INFORMATION WITH RESPECT TO THE ENFORCEMENT OF THE PROVISIONS OF THE ACT AND RULES AND REGULATIONS MADE PURSUANT THERETO.

Visits by Superintending Midwives :—

To Midwives certified by examination	..	..	955
To Midwives otherwise certified	..	..	202
Total Visits to Midwives	..	..	<u>1,157</u>
To cases attended by Midwives	..	..	735
To Nursing Homes	..	..	88
To unregistered women found practising	..	..	1
Re Puerperal Fever	..	..	14
„ „ Pyrexia	..	..	65
„ Ophthalmia Neonatorum and Inflamed Eyes	..	..	164
„ Rise of Temperature	..	..	47
To Babies' Homes	..	..	31
Re Medical Fees	..	..	115
„ Maternal Mortality	..	..	62
Miscellaneous Visits	..	..	26

Births :—

Attended by Medical Practitioners	3,318
„ by Midwives certified by examination	4,050
„ by Midwives otherwise certified	242
„ in Union Maternity Hospital	892
„ in other Maternity Hospitals	663
„ by Nurses from Maternity Hospitals	281
„ in Malone Place Home	134
„ in Thorndale Home	67
„ in Nursing Homes	431

Notifications received by Medical Superintendent Officer of Health :—

Under Form A.—Sending for Medical help	528
„ „ B.—Notification of Death	12
„ „ C.—Notification of Still birth	532
„ „ D.—Notification of having laid out a Dead Body	6
„ „ E.—Source of Infection	6
„ „ F.—Artificial Feeding	63

Irregularities :—

Number of Midwives reported to Medical Superintendent Officer of Health or Maternity and Child Welfare Committee	15
Practising without being registered	1
Number of Midwives suspended	38

Number of Midwives disinfected owing to :—

Puerperal Fever	9
do. Pyrexia	21
Rise of Temperature	17
Scarlet Fever	3
Diphtheria	3
Erysipelas	1
Measles	1
Lobar Pneumonia	1
Number of Midwives who died	1

NOTIFICATION OF BIRTHS ACT.

10,078 births were notified pursuant to the Notification of Births Act and in addition 161 were either discovered by Health Visitors or notified by the Registrars of Births, making a total of 10,239 ; of these 5,285 were males and 4,954 were females ; 532 were stillbirths and 470 were illegitimate births.

Of the total number notified 8,222 were selected for visitation and supervision, and during the year 49,172 visits were made.

On visiting a house where a birth has taken place the Health Visitor makes enquiries regarding the family history and with respect to the conditions obtaining in the home. She also makes an examination of the sanitary arrangements, and if any defect is discovered immediate remedial measures are taken.

She gives advice and instruction as to the care of infants and young children, the preparation of food and the storage of milk, butter, &c., and the precautions to be taken to prevent infectious disease.

For a period of twelve months the child is kept under special supervision and its progress recorded, and the mother is advised to attend the Child Welfare Centre in the district in which she resides. After this period there is a general supervision exercised by the Officers in the district, and if children are delicate or not thriving they are kept under supervision as long as is considered necessary.

MATERNITY AND CHILD WELFARE.

There were 11 Centres (13 sessions) in operation during the year, situated at Donegall Road, Danube Street, Mervue Street, Dee Street, Falls Road, York Street, Woodstock Road, Byron Street, Shankill Road, Gilford Street and Charlotte Street. Nine of these Centres were open one afternoon per week and two were open two afternoons per week, when a Medical Practitioner, properly trained and qualified Health Visitors together with several Voluntary Workers were in attendance.

The work of the Centres consists of a thorough medical examination of babies and medical advice as to their treatment where such is required. Each baby is weighed periodically and the weight recorded in order to ascertain the progress being made and to assist in the discovery of defects or ailments at the earliest possible moment and thus prevent or check any disease which may impede its progress or have a detrimental effect upon its after life. Consultations are held with mothers with respect to their health, and they are advised and instructed in the care of infants and young children and are supplied with instructive literature on the subject. Food, such as Ostermilk, Trufood, Glaxo, Cow and Gate, etc., is supplied at cost price and free to cases where it is considered the circumstances warrant it. In addition to assisting in the regular work of the Centres, the ladies who assisted voluntarily throughout the year very kindly provided suitable clothing for babies at a nominal charge.

The following table shews the number of names on the roll of each Centre, and the total number of attendances during the year, also the number of babies medically examined and the total number of examinations:—

TABLE No. IX.

	On Roll	Total No. of attendances.	Babies medically Examined	Total medical examinations of babies.
Danube Street ..	970	8,939	722	859
Donegall Road ..	616	4,678	276	961
Dee Street (two sessions)	1,027	10,514	839	1,246
York Street	751	5,996	514	2,005
Shankill Road (two sessions)	784	8,462	726	1,920
Falls Road	792	6,303	474	1,106
Charlotte Street ..	172	1,375	120	750
Mervue Street ..	192	776	136	374
Woodstock Road ..	198	1,071	80	265
Byron Street ..	214	1,106	151	170
Gilford Street ..	193	860	115	299
	5,909	50,080	4,153	9,955

In 1930 the total number on the rolls was 4,304 and the total number of attendances 42,118. 3,939 babies were medically examined, the total number of such examinations being 11,117.

During the year 1931, 2,155 lbs. of Glaxo, 6,073 lbs. of Ostermilk, 2,320 lbs. of Trufood, 3,272 lbs. of Humanised Trufood, 1,593 lbs. of Ambrosia, 3,914 lbs. of Cow and Gate, 2,525 lbs. of Colact, 1,008 lbs. of Aberdeen Emulsion and 292 lbs. of Lacidac were distributed.

In the preceding year 3,379 lbs. of Glaxo, 3,824 lbs. of Ostermilk, 1,428 lbs. of Trufood, 1,788 lbs. of Humanised Trufood, 792 lbs. of Aberdeen Emulsion, 962 lbs. of Ambrosia, 104 lbs. of Humanised Ambrosia, 577 lbs. of Cow and Gate, and 75 lbs. of Colact were supplied either at cost price or free to necessitous cases.

During the year 1931 1,611 recipients were supplied with 199,787 pints of sweet milk free. The figures for 1930 were 835 recipients and 119,099 pints of milk.

TABLE No. X.

Shewing the Deaths of children under one year old per 1,000 births each year
from 1881-1930.

Year.			Deaths per 1,000 Births.	Year.			Deaths per 1,000 Births.
1881	..	..	136	1906	..	..	144
1882	..	..	151	1907	..	..	136
1883	..	..	162	1908	..	..	147
1884	..	..	126	1909	..	..	139
1885	..	..	170	1910	..	..	143
1886	..	..	135	1911	..	..	128
1887	..	..	163	1912	..	..	129
1888	..	..	145	1913	..	..	144
1889	..	..	163	1914	..	..	143
1890	..	..	162	1915	..	..	137
1891	..	..	149	1916	..	..	113
1892	..	..	173	1917	..	..	130
1893	..	..	160	1918	..	..	144
1894	..	..	160	1919	..	..	113
1895	..	..	169	1920	..	..	132
1896	..	..	148	1921	..	..	115
1897	..	..	166	1922	..	..	94
1898	..	..	164	1923	..	..	101
1899	..	..	161	1924	..	..	107
1900	..	..	152	1925	..	..	104
1901	..	..	154	1926	..	..	112
1902	..	..	151	1927	..	..	101
1903	..	..	134	1928	..	..	103
1904	..	..	154	1929	..	..	112
1905	..	..	136	1930	..	..	78
				1931	..	..	90

NOTIFICATION OF BIRTHS ACT.

SUMMARY.

Cases investigated	8,222
„ visited a second time	7,087
„ „ third time	6,395
„ „ fourth time	5,780
„ „ fifth time	5,235
„ „ sixth time	4,158
„ „ seventh time	3,241
„ „ eighth time	2,626
„ „ ninth time	1,882
„ „ tenth time	1,398
„ „ eleventh time	959
„ „ twelfth time	643
„ „ thirteenth time	468
„ „ fourteenth time	330
„ „ fifteenth time	212
„ „ sixteenth time	132
„ „ seventeenth time	101
„ „ eighteenth time	68
„ „ nineteenth time	50
„ „ twentieth time	35
„ „ twenty-first time	23
„ „ twenty-second time	17
„ „ twenty-third time	12
„ „ twenty-fourth time	12
„ „ twenty-fifth time	9
„ „ over twenty-five times	77
	49,172
Number of visits re Infant Mortality	588
„ visits to Child Welfare Centres	1,115
„ visits to sick babies	135
„ visits re Infectious Disease	81
„ Scarlet Fever Recoveries	519
„ visits to expectant mothers	806
„ visits to nurses	16
„ visits to handy women	1
„ miscellaneous visits	1,463
„ visits to mothers	46,261
„ visits to children over 1 year	40,177
„ visits to school children	1
„ visits re Tuberculosis	3
„ Visits re Ophthalmia Neonatorum and Inflamed Eyes	539
„ unsuccessful visits	8,268
„ Nursed out babies	1,359

ANTE-NATAL CLINIC STATISTICS.

For Three Months Ended 31st December, 1931.

Cases	..	..	..	..	..	147
Re-visits	..	..	..	..	..	161
Total Attendances						308

Abnormalities :—

Anaemia ..	..	..	5	Hernia ..	..	..	1
Albuminuria	..	..	9	Leucorrhoea	..	..	1
Ante Partum Haemorrhage	..	..	1	Malpresentation	..	..	2
Bronchitis	..	..	3	Multiple pregnancy	..	..	1
Contracted Pelvis	..	..	4	Oedema ..	..	..	2
Dental Caries	..	..	1	Placenta Prævia	..	..	1
Debility	..	..	1	Phthisis ..	..	..	2
Endocarditis	..	..	3	Threatened Miscarriage	..	..	1
Glaucoma	..	..	1	Umbilical Hernia	..	..	1
Hydramnios	..	..	1	Varicose Veins	..	..	8
Hyperpyrexia	..	..	3				
Not pregnant			..	..	..	3	

Patients attended for the first time at different periods of pregnancy, as follows :—

In the first lunar month or not pregnant, 3 cases			
„ second	„	„	3 cases
„ third	„	„	7 „
„ fourth	„	„	9 „
„ fifth	„	„	13 „
„ sixth	„	„	31 „
„ seventh	„	„	31 „
„ eighth	„	„	38 „
„ ninth	„	„	12 „

Deaths of Infants under One Year old from stated Causes in Weeks and Months, notified to this Department, during the year ended 2nd January, 1932.

TABLE XI.

CAUSE OF DEATH.		Under 1 Week.		1-2 Weeks.		2-3 Weeks.		3-4 Weeks.		Total under 1 Month		1-2 Months.		2-3 Months.		3-4 Months.		4-5 Months.		5-6 Months.		6-7 Months.		7-8 Months.		8-9 Months.		9-10 Months.		10-11 Months.		11-12 Months.		Total Deaths under One Year.	GRAND TOTAL
ALL CAUSES.		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
Common Infectious Diseases	Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Scarlet Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Diarrhoeal Diseases	Diphtheria ; Croup	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Whooping Cough	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Diarrhoea, all forms	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Enteritis (<i>not Tuberculous</i>)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Wasting Diseases	Gastritis, Gastro-intestinal Catarrh	65	53	10	6	5	3	4	3	84	65	4	4	6	2	8	7	1	1	5	3	4	4	6	5	3	3	2	..	..	..	..	..	..	
	Premature Birth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Spina Bifida	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Other Congenital Defects	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Tuberculous Diseases	Injury at Birth	8	5	3	1	..	..	..	..	11	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Want of Breast-milk	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Atrophy, Debility, Marasmus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Tuberculous Meningitis	32	26	5	2	3	4	5	7	45	39	7	6	4	5	9	8	6	6	3	2	3	1	1	2	1	1	..	..	..	..	..	..	..	
Tuberculous Diseases	Tuberculous Peritonitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Tabes Mesenterica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Other Tuberculous Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
	Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculous Diseases	Syphilis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Rickets	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Meningitis (<i>not Tuberculous</i>)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	do. Cerebro-Spinal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculous Diseases	Convulsions	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Bronchitis	4	2	2	1	2	..	1	1	7	3	1	2	6	2	2	5	2	3	3	3	2	1	1	2	..	..	..	..	..	..	..	..	..	..
	Laryngitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Pneumonia	..	..	..	..	..	..	..	..	..	..	..	..	..	..																				

LEGISLATION IN FORCE.

Public Health (Ireland) Acts, 1878 to 1907.

Housing of Working Classes Acts.

BELFAST CORPORATION LOCAL ACTS.

8- 9 Vic., Cap.	cxlii (1845).
9-10 Vic., Cap.	ccxciv (1846).
10-11 Vic., Cap.	ccliv (1847).
13-14 Vic., Cap.	cviii (1850).
16-17 Vic., Cap.	cxiv (1853).
27-28 Vic., Cap.	cxcviii (1864).
28-29 Vic., Cap.	clxxxiii (1865).
29-30 Vic., Cap.	cxiii (1866).
31-32 Vic., Cap.	cxvii (1868).
36-37 Vic., Cap.	ccxcix (1873).
37-38 Vic., Cap.	cxxv (1874).
40-41 Vic., Cap.	cxxii (1877).
41-42 Vic., Cap.	clxxx (1878).
47-48 Vic., Cap.	xciii (1884).
50 Vic., Cap.	xxiii (1887).
50-51 Vic., Cap.	cxxvii (1887).
52-53 Vic., Cap.	xlii (1889).
53-54 Vic., Cap.	cv (1890).
53-54 Vic., Cap.	ccxii (1890).
54-55 Vic., Cap.	lvii (1891).
55-56 Vic., Cap.	ccx (1892).
55-56 Vic., Cap.	ccxxxii (1892).
59-60 Vic., Cap.	ccxlv (1896).
60-61 Vic., Cap.	lxxxvi (1897).
61-62 Vic., Cap.	xliv (1898).
61-62 Vic., Cap.	liii (1898).
62-63 Vic., Cap.	ccxlv (1899).
2 Ed. VII., Cap.	cix (1902).
4 Ed. VII., Cap.	ccxxix (1904).
8 Ed. VII., Cap.	cxxvi (1908).
10 Ed. VII., & 1 Geo. V. Cap.	xliv (1910).
1 & 2 Geo. V., Cap.	cxc (1911).
2 & 3 Geo. V., Cap.	ix (1912).
3 & 4 Geo. V., Cap.	c (1913).
4 & 5 Geo., V., Cap.	xxxviii (1914).
13 & 14 Geo. V., Cap.	v (1923).
14 & 15 Geo. V., Cap.	iv (1924).
15 & 16 Geo. V., Cap.	iii (1925).
20 & 21 Geo. V., Cap.	ii (1930).

Port Sanitary Authority Local Government Board (Ireland) Provisional Orders
Confirmation (No. 4) Act, 1900 ; 63 & 64 Vic., Cap. ccv.

The Belfast Holywood and Castlereagh Joint Board, L.G.B. (Ireland) Provisional
Orders Confirmation (No. 2) Act, 1905, 5 Edw. VII., Cap. cxxiii.

PUBLIC ACTS ADOPTED BY THE COUNCIL.

ACT.	DATE OF ADOPTION.
Baths and Washhouses Act, 1846	1st February, 1854.
Public Libraries (Ireland) Act, 1855	1st December, 1882 (By Plebiscite).
Public Health Acts Amendment Act, 1890 (Part III.) ..	1st January, 1891.
Infectious Disease (Prevention) Act, 1890	5th March, 1891.
Infectious Disease (Notification) Act, 1889	1st January, 1897.
Housing of the Working Classes Act, 1890 (Part 3) ..	1st November, 1897.
Notification of Births Act, 1907	2nd December, 1907.
Public Health Acts Amendment Act, 1907 (Parts 7, 8 and 9) ..	By Order of Chief Secretary for Ireland, dated 9th May, 1908.
Public Health Acts Amendment Act, 1890 (Part 4) ..	{ 1st April, 1908. 1st May, 1908.
Museums and Gymnasiums Act, 1891 (So much as relates to Museums)	1st February, 1909.
Tuberculosis Prevention (Ireland) Act, 1908 (Part 1) ..	1st September, 1908.
Public Health Acts Amendment Act, 1907 (Parts 2, 3, 4, 5, 6, and 10)	By Order of L.G.B. for Ireland, dated 20th July, 1910.

BYE-LAWS AND REGULATIONS.

NATURE OF BYE-LAWS.	WHEN MADE.	WHEN CONFIRMED AND BY WHOM
Advertising Vans	2nd May, 1887.	Confirmation Unnecessary.
Advertising Hoardings	4th Oct., 1889.	L.G.B., 19th Oct., 1900.
Aldermen and Councillors Non-Acceptance of Office	June, 1901.	Lord Lieutenant.
Art Gallery, &c.	1st June, 1905.	L.G.B., 14th Sept., 1905.
do.	1st May, 1930.	Ministry of Home Affairs for Northern Ireland, 27th August, 1930.
Abattoir, Butchers working in	1st July, 1909.	L.G.B., 26th Nov., 1909.
Abattoir, Public—		
Management and Charges	1st Sept., 1913.	L.G.B., 4th Nov., 1913.
do.	3rd April, 1922.	Ministry of Home Affairs for Northern Ireland, 20th May, 1922.
do.	3rd Jan., 1927.	10th March, 1927.
do.	1st April, 1927.	13th May, 1927.
do.	1st Oct., 1929.	29th Nov., 1929.
Baths and Wash-houses	5th April, 1904.	L.G.B., 16th May, 1904.
Buildings—New	1st Feb., 1890.	L.G.B., 30th April, 1890.
Buildings	1st Nov., 1928.	Ministry of Home Affairs for Northern Ireland, 12th Dec., 1928.
Bicycles, etc.	1st Jan., 1898.	L.G.B., 13th Mar., 1898.
Betting in Streets	3rd Feb., 1902.	L. Lieut., 14th Mar., 1902.
Bowling Greens	1st July, 1926.	Ministry of Home Affairs, 23rd August, 1926.
do.	2nd May, 1927.	2nd July, 1927.
Burial Grounds	3rd Jan., 1921.	L.G.B., 17th Jan., 1921.
	Amended 1st Feb., 1927.	
Cattle Drovers	1st July, 1925.	Ministry of Home Affairs for Northern Ireland, 1st Sept., 1925.
Cattle, Passage through Streets	2nd Nov., 1931.	do. 10th Dec., 1931.
Coal, Sale of	1st Aug., 1919.	Board of Trade, 15th Sept., 1919.
Children—Prevention of Cruelty to	1st Aug., 1893.	L. Lieut., 6th October, 1893.
Children's Playgrounds	1st Nov., 1923.	Ministry of Home Affairs, 21st Dec., 1923.
Place of Safety, Nazareth House	1st June, 1906.	
Carriage Traffic—		
At Opera House	1st Jan., 1896.	
At Ulster Hall	1st Dec., 1894.	
Carrick House	16th May, 1902.	L.G.B., 26th July, 1902.

NATURE OF BYE-LAWS.			WHEN MADE.	WHEN CONFIRMED AND BY WHOM.
Conveyances Plying for Public Hire—				
Hackney Carriages	..	..	2nd Dec., 1867.	Chairman, Quarter Sessions, Jan., 1868, and subsequent dates.
do.	..	..	1st April, 1898.	Chairman of Quarter Sessions, 14th Oct., 1898.
do.	..	..	1st Sept., 1910.	Recorder of Belfast, 4th Nov., 1910.
do.	..	..	2nd April, 1918.	Recorder of Belfast 18th June, 1918.
do.	..	..	1st June, 1920.	18th Sept., 1920.
Motor Taxi Cab (Fares)	..	..	1st May, 1923.	Chairman of Quarter Sessions, 19th July, 1923.
do.	do.	..	1st March, 1928.	Ministry of Home Affairs, 16th June, 1928.
NOTE.—Under the provisions of the Motor Vehicles (Traffic and Regulation) Act, (N.I.), 1926, the licensing of mechanically propelled Public Service Vehicles to ply for hire passed to the Minister of Home Affairs.				
Dogs, Wearing of Collars by	..	..	1st May, 1907.	Confirmation Unnecessary.
Dairies, Cowsheds and Milkshops	..	..	1st Sept., 1908.	do.
Drovers of Cattle (see Cattle Drovers).				
Female Domestic Servant's Registries			1st March, 1911.	Chief Secretary for Ireland, 27th April, 1911.
Factory and Workshop	..	..	20th June, 1916.	L.G.B., 2nd Aug., 1916.
Hoarding (Advertising)	..	..	4th Oct., 1899.	do. 19th Oct., 1900.
House Refuse, Removal of	..	..	1st Feb., 1909.	do. 8th April, 1909.
Ice Cream, Manufacture and Sale of			1st Feb., 1927.	Ministry of Home Affairs, 31st March, 1927.
Ice Cream, Premises used for sale of	..	..	1st Dec., 1931.	13th Jan., 1932.
Juvenile Street Trading (see Street Trading)				
Lodging Houses—				
Other than Common	..	..	1st May, 1876.	L.G.B., 7th June, 1876.
Seamen's	..	..	March, 1883.	Board of Trade, 17th March, 1883.
Common	..	..	2nd Nov., 1903.	L.G.B., 20th Jan., 1904.
Lights on Vehicles	..	..	1st Jan., 1901.	do. 18th April, 1901.
Lord Mayor, non-acceptance of Office	..	..	June, 1901.	L. Lieutenant, 8th February, 1902
Locomotives—				
(Streets)	..	..	5th June, 1906.	L.G.B., 19th July, 1906.
(Hours)	..	..	1st May, 1914.	do. 15th June, 1914.
Markets	..	..	1st Feb., 1851.	Chairman Quarter Sessions, 12th April, 1851.
Grain and Meal Market	..	..	1st Sept., 1896.	do. 27th Oct., 1896.
Mortuary	..	..	1st Dec., 1895.	
Motor (Taxi) Cabs Plying for Hire (see Conveyances Plying for Hire).				
Meat, Conveyance of	..	..	1st May, 1922.	Ministry of Home Affairs, 7th June, 1922.
do.	do.	..	2nd June, 1930.	19th July, 1930.
Meat, Inspection of	..	..	1st Dec., 1913.	13th Feb., 1914.
Motor Car Parking Places		..	2nd Sept., 1929.	22nd Oct., 1929.
			Additional Order made—	
			3rd March, 1930.	
do.			1st Feb., 1932.	
Offensive Trades	..	..	2nd Nov., 1903.	20th Jan., 1904.
do.	..	..	2nd Nov., 1914.	11th Dec., 1914.
do.		..	1st April, 1930.	10th May, 1930.
Omnibuses	..	..	1st May, 1931.	26th June, 1931.
Public Parks General	..	..	1st Aug., 1923.	27th Sept., 1923.
do.	..	..	2nd May, 1927.	2nd July, 1927.
Public Parks	..	..	1st Nov., 1928.	18th Dec., 1928.

NATURE OF BYE-LAWS.	WHEN MADE.	WHEN CONFIRMED AND BY WHOM.
Parks, Recreation Grounds, Pleasure Grounds, Open Spaces and Children's Playgrounds ..	1st March, 1932.	
do. ..	15th April, 1932.	
Bellevue Gardens and Hazelwood ..	1st Aug., 1923.	Ministry of Home Affairs (N.I.) 27th Sept., 1923.
do. ..	2nd May, 1927.	do. 5th Aug., 1927.
Children's Playgrounds ..	1st Nov., 1923.	Ministry of Home Affairs, 21st Dec., 1923.
Regulation of Vehicular Traffic, Ormeau Park	2nd Oct., 1922.	Ministry of Home Affairs (N.I.) 4th Dec., 1922.
Piggeries	1st May, 1894.	L.G.B., 2nd Aug., 1894.
Pork—See "Meat, Conveyance of."		
Public Libraries, Art Gallery and Museum	1st June, 1905.	do. Aug., 1905.
do. ..	1st May, 1930.	Ministry of Home Affairs, 27th August, 1930.
Public Sanitary Conveniences ..	2nd Nov., 1908.	do. 2nd Jan., 1909.
Public Service Vehicles ..	1st May, 1931.	Ministry of Home Affairs, 26th June, 1931.
Places of Public Resort—Regulations re Ingress to and Egress from	1st Nov., 1909. Amended 3rd Nov., 1913.	Confirmation Unnecessary.
School Attendance ..	2nd June, 1924.	Ministry of Education, 18th Aug., 1924.
do. ..	1st October, 1929.	21st Dec., 1929.
School Committee, Scheme regulating the Constitution, Powers, Duties and Procedure	2nd Jan., 1928.	
Spitting	4th Aug., 1903.	L. Lieut., 1st September, 1903.
Street Nuisances	6th Nov., 1903.	L. Lieut., 12th Oct., 1905.
Street Traffic	1st June, 1904. 1st Feb., 1906. 1st Oct., 1917. 3rd Oct., 1927. 3rd Dec., 1928. 3rd Feb., 1930. 1st June, 1931. 1st Sept., 1931. 1st March, 1932.	Confirmation Unnecessary.
Street Trading (Juvenile) ..	1st Oct., 1925.	Ministry of Home Affairs, 16th December, 1925.
Standing Orders of Council ..	1st Sept., 1930. Amended 1st May, 1931.	
Sheep Scab	1st April, 1915.	
Sanitary Conveniences (see Public Sanitary Conveniences.)		
Swimming Ponds—		
Regulations for use of ..	1st April, 1910.	
Tennis Courts ..	2nd Jan., 1922.	Lord Lieutenant, 9th January, 1922.
Tents, Vans, etc. ..	1st July, 1919.	
Tramways	2nd Oct., 1905.	Commissioner of Public Works, 2nd December, 1905.
Vehicles, Lights on ..	1st Jan., 1901.	L.G.B., 18th April, 1901.

PREMISES AND OCCUPATIONS CONTROLLED BY
BYELAWS AND REGULATIONS ADMINISTERED BY PUBLIC
HEALTH DEPARTMENT.

NATURE OF BYELAW.	NUMBER OF PREMISES	CHARACTER OF PREMISES.
Abattoir— Butchers working in	1 —	City Abattoir. —
Abattoir— Management and Charges	—	—
Burial Grounds	12 { 3 controlled by Corporation. 9 Private Burial Grounds.	The Burial Grounds under the control of the Belfast Corporation are City Cemetery. Dundonald Cemetery and Knock Cemetery. The City Cemetery is situated about $2\frac{1}{2}$ miles from the centre of the City on the West side of Falls Road. It contains about 45 acres and was opened in the year 1869. Dundonald Cemetery is situated in the parish of Dundonald, about 4 miles distant from the centre of the City. It also contains about 45 acres and was opened in the year 1905. Knock Cemetery is situated on the Knock Road. The private burial grounds are :— Friars' Bush Cemetery, Stranmillis Road. Milltown R.C. Cemetery, Falls Road. Malone Burial Ground, Stockman's Lane. Quakers' Burial Ground, Balmoral Avenue. Old Charitable Institution Burial Ground, Clifton Street. Greencastle Burial Ground, Greencastle. Ballymacarrett Methodist Church Burial Ground, Newtownards Road. St. Matthew's Church Burial Ground, Shankill Road. All the graveyards are regularly inspected by the officers of the Public Health Department in order to ensure that the requirements of the Public Health Act and Byelaws made thereunder are complied with.
Dairies, Cowsheds & Milkshops (Ireland) Order.	85 Cowsheds. 1,536 Milkshops.	

Premises and Occupations Controlled by Byelaws and Regulations
administered by Public Health Department—*Continued.*

NATURE OF BYELAW.	NUMBER OF PREMISES	CHARACTER OF PREMISES.
Ice Cream— Manufacture and Sale of	1,000 (approx)	Grocery Shops ; Confectionery Shops ; Fish and Chip Shops ; Kitchen Houses, &c., &c.
Lodging Houses— Common	50	The Common Lodging Houses are old type of houses, situated principally in the centre of the City, with accommodation for lodgers varying from 5 to 319. They consist of :— One—1-storey house ; Eleven—2 stories ; Two—2 stories and attics ; Fourteen—3 stories ; Fifteen—3 stories and attics ; Five—4 stories ; One—basement and 2 stories ; One—basement and 3 stories.
Other than Common	736	
Meat— Conveyance of	—	—
Inspection of	—	—
Offensive Trades	21	Hide Stores ; Gut Scrapers ; Bone Boilers ; Soap Manufacturers ; Fellmongers ; Fat Boilers ; Fat Extractors ; Tanners.
Piggeries	—	—
Sheep Scab	—	—
Tents, Vans, &c.	—	—
Rag Flock Act, 1911, Regulations	No rag flock manu- factured in Belfast, but flock is sold in approximately 20 premises.	Bedding manufacturers and Upholsterers.

FACTORY AND WORKSHOP ACTS.

Summary of inspections and of sanitary improvements carried out in pursuance of the provisions of above Acts.

FATORIES.

668 visits were made to factories.

175 nuisances were discovered.

24 complaints were received from H.M. Inspector of Factories.

10 complaints were received from other sources.

54 Statutory notices for sanitary defects were served.

45 Verbal notices for sanitary defects were given.

SANITARY IMPROVEMENTS.

No. of Factories in which improvements were carried out.	Nature of Improvements.
2	Water closet accommodation provided.
4 ..	Separate sanitary accommodation provided for each sex.
1 ..	Privy abolished and water closet provided.
35 ..	Water closets cleansed.
13 ..	Water closets repaired.
1 ..	New basin provided to water closet.
1 ..	Walls of water closet apartment limewashed.
2 ..	Doors with suitable fastenings provided to water closets.
11 ..	Intervening ventilated spaces provided between workrooms and water closets.
1 ..	Sinks provided.
2 ..	Tiles relaid or floors repaired.
1 ..	Hood and flue provided to carry off gas fumes.
5 ..	Factories cleansed.
4 ..	Drains cleansed and repaired.
1 ..	Opening into drain within factory where food is stored, closed up.
3 ..	Wash-hand basins cleansed.
8 ..	Roofs and spoutings repaired.
2 ..	Spouting repaired.
1 ..	Stairs cleansed.
1 ..	Water supply provided.
7 ..	Smoke nuisances abated.
1 ..	Cesspool abolished.
3 ..	Nuisance caused by discharge of dust abated.
5 ..	Trade refuse removed.

WORKSHOPS

2,514 workshops on register on 1st January.

108 registered during the year.

70 removed from register during the year.

2,506 visits made.

433 nuisances discovered.

132 Statutory notices for sanitary defects were served.

161 verbal notices for sanitary defects were given.

13 complaints were received from H.M. Inspector of Factories.

32 Complaints were received from other sources.

4 cases of failure to exhibit abstract of Factory and Workshop Act were
reported to H.M. Inspector of Factories.

SANITARY IMPROVEMENTS.

No. of Workshops in which improvements were carried out.	Nature of Improvements.
6 ..	Water closet accommodation provided.
4 ..	Separate water closet accommodation provided for each sex.
14 ..	Intervening ventilated spaces provided between workrooms and water closets.

No. of Workshops
in which improvements
were carried out.

Nature of Improvements.

3	..	Water closets provided with means of ventilation.
89	..	Water closets cleansed.
22	..	Water closets repaired.
5	..	Water closets provided with doors fitted with fastenings.
4	..	Water closet apartments repaired.
1	..	Waste pipes repaired.
7	..	Means of ventilation provided.
1	..	Means of ventilation provided to drains.
3	..	New drains provided.
5	..	Drains cleansed.
2	..	Yards cleansed.
2	..	Stairs cleansed.
106	..	Workshops cleansed.
2	..	Workshops cleansed and limewashed.
5	..	Water supply provided.
3	..	New stairs provided.
1	..	Handrail provided to stairs.
2	..	Hoods and flues provided to gas iron heaters.
2	..	Gas irons removed from workrooms.
9	..	Tiles relaid or floors repaired.
5	..	Smoke nuisances abated.
20	..	Trade refuse removed.
3	..	Dustbins provided.
2	..	Ashpits removed and bins provided.
2	..	Roofs repaired.
21	..	Roofs and spoutings repaired.
2	..	Spouting repaired.
3	..	Premises closed on sanitary grounds as unfit to be used as a workshop.

WORKPLACES.

- 189 visits were made to workplaces.
- 52 nuisances were discovered.
- 44 Statutory notices were served.
- 14 Verbal notices given.
- 21 Complaints were received.

SANITARY IMPROVEMENTS.

No. of Workplaces
in which improvements
were carried out.

Nature of Improvements.

1	..	Separate water closet accommodation provided for each sex.
3	..	Water closet accommodation provided.
9	..	Water closets cleansed.
19	..	Water closets repaired.
3	..	Cisterns of water closets repaired.
2	..	Intervening ventilated spaces provided between workplaces and water closets.
1	..	Water closet provided with means of ventilation.
3	..	New drains provided.
4	..	Drains cleansed.
2	..	Means of ventilation provided to water closets.
3	..	Roofs of water closets repaired.
2	..	Walls of water closets limewashed.
3	..	Yards cleansed.
14	..	Workplaces cleansed.
7	..	Workplaces provided with means of ventilation.
9	..	Tiles relaid or repaired.
1	..	Roof and walls repaired.
2	..	Spoutings repaired.
6	..	Walls limewashed, painted, etc.
2	..	Stairs cleansed.
3	..	Accumulations of trade refuse or rubbish removed.
1	..	Restaurant kitchen ceased to communicate with bedroom.

BAKEHOUSES.

914 visits were made to bakehouses.
 272 nuisances were discovered.
 51 Statutory notices were served.
 10 Verbal notices.

SANITARY IMPROVEMENTS.

No. of Bakehouses in which improvements were carried out.	Nature of Improvements.
9 ..	Water closets repaired.
1 ..	Separate water closet accommodation provided for each sex.
2 ..	Means of ventilation provided.
1 ..	Opening into drain within bakehouse closed up.
2 ..	Drains cleansed.
20 ..	Hoods and flues provided to carry off fumes from hot plates and ovens.
1 ..	New drains provided.
5 ..	Roofs and spoutings repaired.
7 ..	Tiles relaid.
1 ..	Sink waste pipe repaired.
1 ..	Water supply provided.
29 ..	Bakehouses cleansed and limewashed.
3 ..	Accumulations of trade refuse removed.
1 ..	Ashpit abolished.
1 ..	Animals removed.

All bakehouses were limewashed or otherwise cleansed at least twice during the year.

SHOPS.

3,696 visits were made by the Female Sanitary Sub-Officers.
 25 breaches of the various Acts were discovered.
 130 statutory notices were served for sanitary defects and want of cleanliness.
 55 verbal notices were given for sanitary defects and want of cleanliness.
 4 complaints were received.

No. of Shops in which improvements were carried out.	Nature of Improvements.
4 ..	Room adjoining shop ceased to be used as a bedroom.
1 ..	Sale of food discontinued in unsuitable premises.
6 ..	Suitable storage for food provided.
98 ..	Premises cleansed.
29 ..	Yards cleansed and limewashed.
13 ..	Stairs cleansed.
5 ..	Water closets cleansed and repaired.
22 ..	Water closets cleansed and limewashed.
21 ..	Cisterns of water closets repaired.
42 ..	Water closets repaired.
8 ..	Roofs of water closets repaired.
6 ..	Drains cleansed.
30 ..	Tiling repaired.
7 ..	Flooring repaired.
11 ..	Spouting repaired.
2 ..	Waste pipes repaired.
19 ..	Roofs of premises repaired.
2 ..	Walls limewashed.
1 ..	Use of separate sanitary accommodation for sexes provided.
8 ..	Walls repaired.
10 ..	Ceilings repaired.
2 ..	Water taps repaired.
1 ..	Step repaired.
2 ..	Gratings provided to gully traps.
4 ..	Dustbins provided.
3 ..	Rubbish removed.

TABLE XII.

HOME WORK.

	OUTWORKERS																	
	Lists received from Employers								Notices Served on Occupiers as to Keeping or Sending Lists	Prosecutions	Inspections of Outworkers' Premises	Outwork in Unwholesome Premises		Outwork in Infected Premises		Visits to Employers Premises		
	Sending Twice in the Year				Sending Once in the Year													
	Lists	Outworkers		Contractors	Workmen	Lists	Outworkers										Contractors	Workmen
Wearing Apparel— Making, Cleansing and Washing ..	147	5	530		8	..	12	..	..	4,547	..	..	17	8	..			
Household Linen ..	145	386	3,085		7	4	29	..	..	4,547	..	..	..	..	135			
Furniture and Upholstery	5	..	10		..	..	..	..	..	..	..	..	..	..	..			
Paper Bags and Boxes ..	4	..	8		..	..	..	..	..	..	..	..	..	..	..			
Total ..	301	391	3,633		15	4	41	..	..	4,547	179	179	17	8	135			

The approximate number of outworkers over which the department required to exercise supervision during the year was 1,000.

The names and addresses of all outworkers and contractors who resided outside the city were forwarded to the District Council of the District in which they resided.

595 sanitary defects, nuisances, etc., were discovered and remedied.

All work found on infected premises was disinfected.

COMMON LODGING HOUSES.

Number on Register at 1st January	..	..	49
Registrations effected during the year	..	..	2
Removed from Register during the year	..	..	1
Number of lodgers for whom there was accommodation	..	..	1,390
Number of visits during the year by lodging-house Inspector	..	..	1,963
Statutory notices served for nuisances	..	..	47
Verbal notices for breaches of Byelaws.	..	..	193

The accommodation varies from 5 to 319 persons to a house.

Two applications for registration were refused ; in one case the premises were unsuitable, and in the other the applicant was not approved of.

On visiting the lodging houses your officer paid special attention to the general condition of the premises, including cleanliness, lighting and ventilation, and also to the condition of the bedding. The prevention of overcrowding was strictly enforced and immediate remedial measures taken for the abatement of any nuisance or the repair of any sanitary defect found to exist.

All the houses were limewashed regularly and the bedding cleansed or renewed at intervals.

A number of sanitary defects were discovered for which notices were served on the owners or persons responsible.

SANITARY IMPROVEMENTS.

No. of Lodging Houses
in which improvements
were carried out.

Nature of Improvements.

12	..	Drains cleansed.
14	..	Roofs repaired.
2	..	Roofs of water closets repaired.
4	..	Spouting repaired.
1	..	Water closet provided with new cistern.
8	..	Water closets repaired.
1	..	Water pipe repaired.
10	..	Tiles relaid or flooring repaired.
1	..	Skylight repaired.
3	..	Doors repaired.
4	..	Windows repaired.
6	..	Walls repaired (brickwork).
12	..	Plaster of walls and ceilings repaired.

RAG FLOCK ACT, 1911.

During the year 1931, 56 visits were made to premises where rag flock was used for making bedding and upholstery. Thirteen samples were taken for analysis 7 of which were found to be below standard.

SMOKE NUISANCE.

During the year 509 observations were made for the detection of black smoke being emitted in such quantities as to be a nuisance.

OFFENSIVE TRADES.

During the year 582 visits were made to the premises in which offensive trades were carried on throughout the City, in order to ensure that the Bye-Laws with respect to same were being complied with.

TABLE NO. XIII.
LEGAL PROCEEDINGS.

	Summonses.	Orders.	Fines.		
			£	s.	d.
Under Public Health Acts—					
For abatement of nuisances ..	548	58	13	0	0
Disobedience of Justices' Orders ..	10	—	5	10	3
Exposing unsound poultry for sale ..	1	—	4	15	0
Failing to remove manure within pre- scribed period.	1	—	0	9	0
Conveying shellfish for sale ..	1	—	—		
Keeping an unregistered Common Lodging House	1	—	3	0	0
Under Dairies, Cowsheds and Milkshops Order	8	—	6	0	0
Under Belfast Corporation Acts ..	1	—	0	10	0
Under Bye-Laws for the decent and seemly conveyance of meat through the public thoroughfares	6	—	2	10	0
Under Merchandise Marks Act	22	—	15	16	0
Under Bye-Laws prohibiting the sale of meat until after inspection	1	—	1	0	0
Under Housing of the Working Classes Acts	6	3	4	9	0
Under Factory and Workshops Acts ..	1	—	1	14	0
Under Diseases of Animals Acts—					
Sheep Scab Order	2	—	5	10	0
Sheep Dipping Order	5	—	3	6	0
Under Sale of Food and Drugs Acts ..	—	—	81	5	0

RAINFALL.

The following Table, kindly supplied by Mr. W. I. Quinn, Secretary to the Belfast City and District Water Commissioners, shows the rainfall in inches during the several months of the year 1931 as recorded at the Water Works at Old Park, compared with the preceding ten years.

TABLE No. XIV.

		1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
January	..	5.42	4.62	4.84	5.06	3.16	5.09	3.57	7.63	2.29	4.80	4.49
February	..	0.57	3.84	6.39	0.85	4.15	4.80	1.75	4.61	4.23	0.90	3.30
March	..	2.24	1.28	2.53	1.36	1.24	1.52	2.65	3.79	0.57	2.03	1.30
April	..	0.89	3.62	3.28	3.15	3.89	1.93	1.26	1.40	1.28	2.01	2.77
May	..	1.52	1.67	1.43	5.12	6.23	2.30	1.43	1.65	2.93	2.02	4.33
June	..	0.21	2.18	0.49	4.32	0.41	1.97	3.91	4.83	3.12	2.35	5.41
July	..	3.22	3.52	1.60	4.42	3.96	3.74	2.93	2.35	3.51	3.34	2.71
August	..	3.18	3.63	7.40	5.71	1.70	3.67	3.10	3.82	5.67	6.41	3.40
September	..	1.71	1.98	4.34	6.93	3.96	2.23	5.42	2.13	0.83	4.51	1.63
October	..	4.21	1.82	5.80	3.00	3.47	3.85	3.66	7.38	4.33	6.03	2.19
November	..	2.97	1.39	4.20	4.17	1.86	4.18	4.84	5.61	5.10	5.39	6.11
December	..	3.73	2.86	5.78	4.83	4.68	1.05	2.91	4.55	7.67	4.24	3.25
Total	..	29.87	32.41	48.08	48.92	38.71	36.33	37.43	49.75	41.53	44.03	40.89

REPORT

of the City Veterinarian on the Work of his Department for the year 1931.

To the Chairman and Members of the Public Health Committee

Mr. Chairman and Gentlemen,

I beg to submit my report on the work at the Public Abattoir in connection with the Anti-Mortem and Post-Mortem examinations of the animals slaughtered for human food.

Reference is also made to the work carried out under the Sanitary (Veterinary Inspectors) Order 1909.

TABLE (1).

Table showing the number of animals slaughtered and inspected in the Public Abattoir during the year 1931, also the number of carcasses condemned (from all causes), as being unfit for human food.

Species.	Number Slaughtered.		Number Condemned.	
	1931.	1930.	1931.	1930.
COWS	20,533	23,734	568	687
HEIFERS	992	1,502	8	14
BULLOCKS	16,140	16,474	39	4
BULLS	1,015	759	4	48
CALVES	906	1,391	33	41
SHEEP AND LAMBS ..	91,190	85,314	192	150
GOATS	884	1,083	13	29
PIGS	10,432	9,348	142	76
TOTAL ..	142,092	139,641	999	1,049

TABLE (2).

Table showing the Carcasses seized in the Public Abattoir during the year 1931 and totally destroyed as being unfit for food.

	CATTLE					Sheep Lambs	Goats	Pigs	TOTAL
	Cows	Heifers	Bulls	Bullocks	Calves				
Actinomycosis ..	1	..	..	..	..	..	..	..	1
Anemia ..	1	..	..	..	..	..	..	..	1
Decomposed ..	..	..	..	..	..	16	1	9	26
Dropsical ..	29	1	..	1	1	106	12	4	154
Emaciated ..	43	..	..	2	1	3	..	5	54
Enteritis ..	..	..	..	..	1	..	..	..	1
Fevered ..	40	1	..	5	14	27	..	81	168
Gangrene ..	2	..	..	..	..	..	..	..	2
Hydatids ..	1	..	..	..	..	..	..	..	1
Immaturity ..	..	..	..	..	2	..	..	..	2
Inflammation ..	1	..	..	..	3	1	..	..	5

TABLE 2—continued.

	CATTLE					Sheep Lambs	Goats	Pigs	TOTAL
	Cows	Heifers	Bulls	Bullocks	Calves				
Injured ..	11	..	..	..	..	21	..	..	32
Jaundice ..	1	..	..	..	..	..	..	2	3
Melanosis ..	..	1	..	..	..	..	..	..	1
Neoplasms (Carcinoma Sarcoma)	38	..	..	..	..	2	..	..	40
Navel Ill ..	..	..	..	..	3	..	..	..	3
Peritonitis ..	..	..	..	..	..	6	..	1	7
Pneumonia ..	..	..	..	..	..	..	..	8	8
Pyæmia ..	..	..	..	1	..	..	..	..	1
Pyroplasmosis ..	1	..	..	..	..	..	..	..	1
Scab ..	..	..	..	..	..	1	..	..	1
Septicaemia (Incl. Metritis) ..	17	..	..	..	1	6	..	..	24
Septic Mastitis ..	5	..	..	..	..	..	..	..	5
„ Nephritis ..	..	..	..	..	..	..	..	1	1
„ Pneumonia ..	..	..	..	..	1	1	..	1	3
Strongylosis ..	..	..	..	..	2	..	..	..	2
Swine Fever ..	..	..	..	..	..	..	..	9	9
Tuberculosis ..	377	5	4	30	1	..	..	21	438
White Scour ..	..	..	..	..	5	..	..	..	5
TOTAL ..	568	8	4	39	33	192	13	142	999

In addition to the above summary, there was 2 ton 14 cwt. 0 qr. 18 lbs. of Beef, 1 cwt. 3 qrs. 12 lbs. of Mutton, 2 qrs. 12 lbs. of Pork, and 1 qr. 2 lbs. of Veal seized as being unsound and unfit for human food.

TABLE (3).

Table showing comparison between Tuberculosis and other Diseases as causes of condemnation of carcasses of animals slaughtered at the Public Abattoir during the year 1931.

	CATTLE			Sheep and Lambs.	Goats	Pigs	Total
	Cows	Other Cattle	Calves				
Total ..	377	39	1	..	..	21	438
Tuberculosis							
Partial ..	15	..	..	..	..	..	15
Total and Partial ..	392	39	1	..	..	21	453
Total ..	191	12	32	192	13	121	561
Other Diseased Conditions ..							
Partial ..	33	12	..	..	..	..	45
Total and Partial ..	224	24	32	192	13	121	606

It will be seen from the above figures that of the total number of cattle seized Tuberculosis was the cause of 63% of the seizures

Some indication of the losses from Tuberculosis borne annually by the meat trade may be obtained from the above figures which represent a cash value of at least £4,000 or roughly £75 per week.

TABLE (4).

Table showing the percentage by age of the animals slaughtered and condemned for Tuberculosis.

SPECIES.	BY AGE.							
	From One Month to one Year.	Per Cent.	One to Three Years.	Per Cent.	From Three to Six Years.	Per Cent.	Over Six Years.	Per Cent.
Cows ..	..	..	..	..	5	1/32	372	98.67
Heifers ..	..	..	3	60	2	40	..	..
Bullocks ..	..	..	16	53	13	43	1	3.33
Bulls ..	..	..	2	50	2	50	..	..
Pigs ..	21	100	..	..	..	..	..	..
Calves ..	1	100	..	..	..	..	..	..

TABLE (5).

Table showing the percentage by condition of the animals slaughtered and condemned for Tuberculosis.

SPECIES.	BY CONDITION.							
	GOOD		FAIR		INDIFFERENT		POOR	
	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.
Cows ..	8	2.12	172	45.62	174	46.15	23	6.10
Heifers ..	..	..	3	60.00	2	40.00	..	..
Bulls ..	..	..	3	75.00	..	..	1	25.00
Bullocks ..	3	10.00	24	80.00	3	10.00	..	..
Calves ..	..	..	..	..	..	..	1	100
Pigs ..	21	100	..	..	..	..	..	..

TABLE (6).

Table showing the number of Diseased Organs seized and destroyed as being unsound and unfit for human food during the year 1931. (The figures of the preceding year are given for comparison.

	1931	1930	INCREASE	DECREASE
Beef Heads ..	140	64	76	—
„ Tongues ..	143	64	79	—
„ Hearts ..	92	34	58	—
„ Lungs ..	4,624	4,842	—	218
„ Livers ..	11,885	14,756	—	2,871
„ Stomachs ..	144	51	93	—
„ Udders ..	2,161	2,453	—	292
„ Kidneys ..	404	392	12	—
Pork Heads ..	45	10	35	—
„ Tongues ..	45	10	35	—
„ Hearts ..	55	14	41	—
„ Lungs ..	116	43	73	—
„ Livers ..	174	279	—	105
„ Kidneys ..	3	—	3	—
„ Mesenteries ..	28	—	28	—
Goat Livers ..	49	59	—	10
Mutton Hearts ..	3	—	3	—
„ Lungs ..	153	100	53	—
„ Livers ..	7,368	7,984	—	616

The above does not include the viscera of animals totally destroyed.

It will be seen from the above table that the total number of livers seized was 19,253, and in the great majority of cases the cause of seizure was Cirrhosis due to Distomes. From the above figure it is quite evident that no universal attempt is made to reduce Distomiasis by systematic dosing of affected animals, and as a result the amount of food lost is very great.

TABLE (7).

Table showing percentage incidence of Generalized Tuberculosis in animals slaughtered at the Public Abattoir during the year 1931.

	1931	1930
Cows	1.32	1.72
Other Cattle	.21	.21
Cattle (all classes)	1.05	1.07
Calves	.11	.14
Pigs	.02	.02

INSPECTION OF MEAT PREPARED OUTSIDE THE CITY BOUNDARY.

According to Section (2) Sale of Meat Bye-Laws. Every person bringing any meat within the city for sale, shall bring such meat to the Public Abattoir, Stewart Street, and there submit same for inspection between the hours of 8 a.m. and 10 a.m.

The following tables show the amount of meat, offal, etc., dealt with in accordance with the above regulation.

(A).—Table showing amount Examined.

	BEEF	MUTTON	PORK	VEAL	GOAT
Sides ..	1,874	..	..	..	..
Quarters ..	73	..	..	..	..
Cuts ..	2,777	217	..	..	..
Carcases ..	..	3,191	51	..	..
Heads ..	951	128	..	..	..
Tongues ..	976	..	..	..	..
Hearts ..	873	2,816	..	..	..
Lungs ..	750	3,116	..	..	..
Livers ..	958	3,022	..	..	..
Mesentries ..	876	..	..	..	..

(B).—Table showing amount Seized.

	BEEF	MUTTON	PORK	VEAL	GOAT
Sides ..	20	..	..	..	..
Quarters ..	5	..	..	..	..
Cuts ..	3	..	..	..	..
Carcases ..	..	10	19	—	—
Heads ..	15	1	..	..	..
Tongues ..	11	..	..	..	..
Hearts ..	12	1	..	..	..
Lungs ..	51	3	..	..	..
Livers ..	158	183	..	..	..
Mesentries ..	9	..	..	..	..

INSPECTION OF PORK IN THE MARKET.

The following table shows the number of carcasses of Pork inspected and results :—

TUBERCULOSIS

Number Examined	Total Seizure	Partial Seizure	Other Causes
47	1	..	..

INSPECTION OF COWSHEDS AND DAIRY COWS.

During the year I have made a systematic inspection of the cowsheds and Cattle within the city boundary. The approximate number of Milch cows is 1,326 and the total number of cowsheds of the register 85. Compared with the previous year this shows an increase of 172 milch cows and a decrease of 5 cowsheds. The health, condition, and cleanliness of the cows inspected was good and only in a few cases did clinical examination reveal any abnormal condition.

Repeated bacteriological examinations of milk from cows showing any udder lesion were carried out. In the majority of cases dealt with *Streptococcus mastitidis* was the causal agent. This organism is regarded as devoid of disease producing effect on man, but it causes an altered appearance of the milk and renders it quite unsuitable for human consumption.

The cowsheds have been carefully inspected, paying attention to lighting, ventilation, drainage and water supply. In only one instance was it necessary to order the owner to cleanse his cowshed.

Three applications were received from Dairy men to commence keeping cows in the city for the sale of milk. These applicants having complied with the various regulations, their names were added to the register.

The number of grade A. herds supplying milk in the city has steadily increased, but unfortunately the most of our milk supply which is produced in rural areas outside our jurisdiction is not of that standard.

I am indebted to my colleague Dr. Tinsdale for the considerable amount of laboratory work he so kindly undertook in connection with the examination of milk, specimens, etc.

I also wish to acknowledge the many kindnesses my chief (Dr. Thomson, M.S.O.H.) has shown me during the year, and the personal interest he has taken in my department.

To my staff for their loyal support and the manner in which they carried out their onerous duties at all times, I say thanks.

I am, Mr. Chairman and Gentlemen,

Your obedient Servant,

City Veterinarian's Office,
Stewart Street,
Belfast.

ALEX. McLEAN,
City Veterinarian.

MILK SUPPLY.

Milkshops—

On Register 1st January	1,501
New Registrations effected during the year	280
Removed from Register during the year	245
Number of Visits made during the year	4,509
Special inspections with a view to the discovery of unregistered persons selling milk	90
Number of requests for registration refused	7
*Number of unregistered persons discovered selling milk	46
Number of new vessels provided by vendors for the storage, etc., of milk	283
Verbal notices given	63

*In the majority of instances where unregistered persons were found selling milk, ignorance of the law was pleaded. If the premises were suitable the offenders had their names placed on the register and if unsuitable they immediately ceased selling milk.

During the year 225 samples of milk were taken and submitted to the City Bacteriologist for examination.

Return shewing the number of Milkshops and the Inspections made in each of the several Dispensary Districts.

Dispensary Districts	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Purveyors	58	179	201	137	68	125	5	16	96	114	164	116	70	..	114	73	1536
Inspections	227	774	468	297	167	412	6	23	294	251	379	349	218	..	388	256	4509

Cowsheds—

On Register	85
Number of Cows	1,326
Number of inspections made	492
All Cowsheds were limewashed at least twice during the year.	

Return shewing the number of Cowsheds and the number of inspections made in each of the several Dispensary Districts.

Dispensary District	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
Cowsheds	..	2	2	8	..	7	2	19	19	5	6	5	8	..	2	..	85
Inspections	..	13	8	64	..	24	10	79	157	8	41	31	42	..	15	..	492

SALE OF FOOD AND DRUGS ACTS.

In 8 cases of Buttermilk, 1 of Gin, 1 of Medical Prescriptions, 1 of Sausages, 1 of Mince Meat, 24 of Sweetmilk and 1 of Whiskey, the percentage below standard was so small no proceedings were taken, but vendors were cautioned.

In 1 case of Sweetmilk, 2 of Butter, 2 of Buttermilk, 1 of Sugar, and 1 of Aerated Water, the samples were informal.

Return showing particulars of samples of food etc. taken for analysis during the year ended 31st December, 1931.

TABLE XV.

Nature of Sample.	Samples taken.	Adulterations.	Prosecutions.	Convictions.	Dismissals.	Discharged on payment of costs.	Fines.
Aerated Waters ..	6	..	..	..	..	..	..
Aerated Waters (Informal) ..	1	1	..	..	..	..	..
Almonds ..	1	..	..	..	..	..	..
Ammoniated Tincture of Quinine ..	2	..	..	..	..	..	..
Aspirin Tablets ..	4	..	..	..	..	..	..
Baking Powder ..	10	..	..	..	..	..	..
Barley ..	8	..	..	..	..	..	..
Beans with Pork and Tomato Sauce ..	2	..	..	..	..	..	..
Beef Suet ..	1	..	..	..	..	..	..
Beer ..	1	..	..	..	..	..	..
Bicarbonate of Soda (Informal)	1	..	..	..	..	..	..
Bisto ..	1	..	..	..	..	..	..
Brawn ..	1	..	..	..	..	..	..
Butter ..	99	3	3	3	..	..	2 5 0
Butter (Informal) ..	11	2	..	..	..	..	..
Buttermilk ..	308	27	19	16	..	3	33 10 0
Buttermilk (Informal) ..	14	2	..	..	..	..	..
Cascara Tablets ..	1	..	..	..	..	..	..
Candied Peel ..	1	..	..	..	..	..	..
Cheese ..	28	1	1	..	1	..	..
Cheese (Informal) ..	5	..	..	..	..	..	..
Chocolates ..	1	..	..	..	..	..	..
Chocolates (Informal) ..	1	..	..	..	..	..	..
Cider ..	1	..	..	..	..	..	..
Citrate of Margarine ..	2	..	..	..	..	..	..
Cinnamon ..	1	..	..	..	..	..	..
Coffee ..	3	..	..	..	..	..	..
Coffee and Chicory ..	7	..	..	..	..	..	..
Condensed Milk ..	13	..	..	..	..	..	..
Cocoa ..	10	..	..	..	..	..	..
Cod Liver Oil ..	3	..	..	..	..	..	..
Confectionery (Informal) ..	1	..	..	..	..	..	..
Corned Beef ..	1	..	..	..	..	..	..
Cornflour ..	6	..	..	..	..	..	..
Cream ..	5	..	..	..	..	..	..
Cream (Informal) ..	1	..	..	..	..	..	..
Cream of Tartar ..	6	..	..	..	..	..	..
Crystallised Fruit ..	3	..	..	..	..	..	..
Currants, Raisins and Mixed Fruits ..	26	..	..	..	..	..	..
Custard Powder ..	4	..	..	..	..	..	..
Dripping ..	54	..	..	..	..	..	..
Eggs, Liquid (Informal) ..	2	..	..	..	..	..	..
Epsom Salts ..	1	..	..	..	..	..	..
Fruit Cordial ..	1	..	..	..	..	..	..
Fruit, tinned Pears ..	2	..	..	..	..	..	..
Gall Ointment (Informal) ..	3	..	..	..	..	..	..
Ginger Cordial ..	2	..	..	..	..	..	..
Ginger (Ground) ..	1	..	..	..	..	..	..
Gin ..	3	1	..	..	..	..	..
Glaxo, modified dried full Cream Milk ..	1	..	..	..	..	..	..
Gooseberry Jam (Informal) ..	1	..	..	..	..	..	..
Honey (Informal) ..	1	..	..	..	..	..	..
Lard ..	30	..	..	..	..	..	..
Lard Substitute ..	2	..	..	..	..	..	..
Lemonade Powder (Informal)	4	..	..	..	..	..	..

TABLE XV. (Continued).

Nature of Sample.	Samples taken.	Adulterations.	Prosecutions.	Convictions.	Dismissals.	Discharged on payment of costs.	Fines.
Lemonade and Ice Foam							
Crystals	2	..	..	..	..	..	..
Lentils	2	..	..	..	..	..	..
Margarine	29	..	..	..	..	..	..
Medical Prescriptions	42	5	4	4	..	..	12 0 0
Mercurial Ointment	3	..	..	..	..	..	..
Milk Pudding Mixture	2	..	..	..	..	..	..
Minced Meat	12	1	..	..	..	..	..
Mineral Waters	5	..	..	..	..	..	..
Mineral Waters (Informal)	4	..	..	..	..	..	..
Mustard	8	..	..	..	..	..	..
Olive Oil	1	..	..	..	..	..	..
Parrish's Chemical Food	2	..	..	..	..	..	..
Peas	8	..	..	..	..	..	..
Pepper	9	..	..	..	..	..	..
Relishes and Sauces	5	..	..	..	..	..	..
Rice	4	..	..	..	..	..	..
Rum	1	..	..	..	..	..	..
Salt (Informal)	5	..	..	..	..	..	..
Sarsaparilla (Informal)	1	..	..	..	..	..	..
Sauce	18	..	..	..	..	..	..
Sausages	27	6	5	4	..	1	2 10 0
Self Raising Flour (Informal)	3	..	..	..	..	..	..
Semolina	1	..	..	..	..	..	..
Soup (Tomato)	1	..	..	..	..	..	..
Steak, Minced	1	..	..	..	..	..	..
Stok Powder	1	..	..	..	..	..	..
Stout, Herb	1	..	..	..	..	..	..
Strawberries	1	..	..	..	..	..	..
Sugar (Informal)	1	1	..	..	..	..	..
Sweetmilk	1,197	48	24	14	8	2	21 10 0
Sweetmilk (Informal)	52	1	..	..	..	..	..
Sweetmilk (Informal) ex- traneous dirt	170	..	..	..	..	..	..
Syrup	1	..	..	..	..	..	..
Tapioca	1	..	..	..	..	..	..
Tartaric Acid	1	..	..	..	..	..	..
Tea	18	..	..	..	..	..	..
Tinned Fruit	1	..	..	..	..	..	..
Vinegar	22	..	..	..	..	..	..
Whiskey	4	1	..	..	..	..	..
Whiskey (Informal)	1	..	..	..	..	..	..
Wine	2	..	..	..	..	..	..
Total	2,379	100	56	41	9	6	71 15 0

TABLE XVI.
Return showing particulars of samples of sweetmilk taken for analysis during the year.

Month.	Samples taken.	Average percentage.		Highest percentage of Fats with the percentage of solids (not of Fats).		Highest percentage of solids (not with the percentage of Fats).		Lowest per centage of fats with the per-centage of solids (not Fats).		Lowest percentage of solids (not Fats) with the percentage of Fats.	
		Fats	Solids not Fats.	Fats.	Solids not Fats.	Fats.	Solids not Fats.	Fats.	Solids not Fats.	Fats.	Solids not Fats.
January	..	3.63	8.91	4.80	8.38	9.44	3.60	2.29	8.73	8.28	3.70
February	..	3.61	8.89	5.10	9.20	9.45	3.30	2.45	9.19	7.92	3.08
March	..	3.81	8.91	5.06	9.01	9.48	4.70	2.56	8.94	8.04	5.60
April	..	3.68	8.85	6.10	8.73	9.83	3.25	2.60	8.82	8.19	2.76
May	..	3.46	8.91	5.20	8.40	9.45	3.80	2.40	8.96	8.18	2.76
June	..	3.50	8.86	6.00	8.94	9.22	3.10	2.19	9.06	8.51	2.75
July	..	3.13	8.76	3.70	9.08	9.12	3.00	2.58	8.77	8.40	3.30
August	..	3.63	8.66	5.70	8.68	9.21	3.20	2.36	8.39	7.88	4.30
September	..	3.65	8.79	5.60	9.32	9.32	5.60	2.70	8.95	8.26	3.10
October	..	3.76	8.78	5.30	9.03	9.18	3.20	2.88	8.37	8.14	4.00
November	..	3.87	8.84	6.90	8.64	9.61	3.70	2.34	8.99	7.61	4.45
December	..	3.80	8.87	5.10	9.22	9.35	4.40	2.50	8.82	8.27	4.00

Return showing shops, etc., visited during the year 1931.

Description of Shops, Etc.						No. of Visits.
Butchers	..	..	..	..	..	3,080
Confectionery	..	..	..	..	..	97
Dairies	..	..	..	..	..	190
Fish	..	..	..	..	..	260
Fish and Chip		..	..	..	..	275
Fruit	..	..	..	..	..	1,378
Grocery	..	..	..	..	..	3,094
Ice Cream	..	..	..	..	..	425
Markets	..	..	..	..	..	225
Provision	..	..	..	..	..	1,318
Pork Stores	..	..	..	..	..	394
Railway Stations		..	..	..	..	461
Wholesale Stores		..	..	..	..	27
Meat Factories		..	..	..	..	179
Cold Stores	..	..	..	..	..	74
Hawkers carts, etc.		..	..	..	..	1,071

SEIZURES.

19 carcasses of pigs.
 1 cwt. of bacon.
 8 quarters of beef.
 43 lbs. sausages.
 46 rabbits.
 193 boxes of fish.

THE PUBLIC ABATTOIR.

The Public Abattoir is situated in Stewart Street and covers an area of $3\frac{1}{4}$ acres. It is within easy access of the Cattle Market, Oxford Street, and Sale Yards, all of which are in the immediate vicinity, thus it will be seen that the Markets Committee, in their foresight, were fully justified in erecting the establishment in a central position as much time is thereby saved by the Butchers, owing to the fact that an animal for slaughter can be driven from the Markets and Auction Marts to the Abattoir inside five minutes. A special entrance from the Markets under one of the Archways of the Albert Bridge has also been provided by the Committee and is largely availed of by the Butchers on Mondays and Tuesdays of each week, the former day for transit of sheep and the latter for cattle. This arrangement, from a traffic point of view, is an excellent one, and greatly relieves congestion in the surrounding streets.

The present building is comparatively new, thoroughly up-to-date, and contains all the equipment, electrical and otherwise, necessary to carry on a modern Abattoir.

I append particulars of the Abattoir Buildings, &c., also the present Staff and their duties.

Buildings, Etc.

1. THE ADMINISTRATIVE BLOCK contains Resident Foreman's Apartments in second storey, Veterinarian's Office, Laboratory, General Office and Toll Collector's Office, also Meat Inspectors' Rest Room, on Ground Floor, all with complete telephonic communication and necessary equipment.
2. MESS ROOM for use of Butchers prior to commencing their work.
3. LIVE SHEEP LAIRAGE BUILDING capable of accommodating 1,200 Sheep.
4. SHEEP KILLING HALL capable of providing accommodation for the slaughter of from 500 to 700 animals per day.
5. SHEEP HANGING HALL capable of storing upwards of 700 carcasses of Mutton.
6. LIVE PIG LAIRAGE BUILDING capable of accommodating 100 Pigs.
7. PIG KILLING AND HANGING HALL fitted up with the most modern appliances (including Special Hot Water Tanks for scalding purposes) with accommodation for 250 carcasses.
8. LIVE CATTLE LAIRAGE (220 ft. long x 48 ft. wide) capable of accommodating 250 Head of Cattle.
9. CATTLE KILLING PENS (20) (each $10\frac{1}{2}$ ft. long x 14 ft. wide).
10. CENTRAL CATTLE DRESSING HALL (220 ft. long x 40 ft. wide).
11. MEAT HANGING HALL (166 ft. long x 48 ft. wide) capable of storing 500 carcasses of Beef, and fitted up with special overhead Twin Bar Trolleys for removing same.
12. REFRIGERATOR AND CHILL ROOMS capable of storing 150 carcasses of Beef, 300 carcasses of Mutton and 100 carcasses of Pork per day.

13. BOILER HOUSE.
14. ENGINE HOUSE.
15. CONDEMNED MEAT STORE.
16. DIGESTER PLANT BUILDING.
17. TRIPE DRESSING STORES (2).
18. GUT DRESSING STORES (3).
19. BUTCHERS' LOCKERS.
20. WEIGHING MACHINES (various)
21. ELECTRIC CLOCKS (complete installation)

Staff (Markets Committee).

1 Manager.	1 Charwoman.
1 Resident Foreman.	3 Checkers.
1 Toll Clerk.	8 Porters (Cleaning Floors, etc.).
1 General Clerk.	1 Constable.
1 Engineer.	1 Mechanic.
1 Machineman.	1 Weighmaster.
—	1 Night Watchman.
6	1 Fireman.
	1 Digester Plant Operator.
	1 Assistant Digester Plant Operator.
	1 Refrigerator Operator.
	—
	20
Total Staff	.. 26.

Cattle Drinking Troughs.

During the past year a complete installation of "self-filling" Drinking Troughs has been installed in the Cattle Lairage for the accommodation of some 250 Head of Cattle. This arrangement is thoroughly up-to-date and ensures a plentiful supply of clean water for the animals at all times.

Humane Killers.

The use of the "Humane Killer" in connection with the slaughter of Cattle, Sheep, Calves and Goats is compulsory, in accordance with provisions of a Bye-Law which was put into operation in March 1930. There are 36 Humane Killers in use which are highly satisfactory, no accident or injury of any sort having occurred to man or beast during the past year.

The "Humane Killer" has not been found suitable in connection with Pig Slaughter but a new instrument, known as "Electrolethaler," which stuns the animal by electricity has been brought to the notice of the Markets Committee by the City Veterinarian with a view to its adoption or otherwise. The apparatus is at present installed in several English and Continental Abattoirs with satisfactory results.

The following return shows the number of animals slaughtered in the Abattoir during the Year ended 31st December, 1931.—

Cattle	38,680
Calves	906
Sheep and Lambs	91,190
Goats	884
Pigs	10,432
	142,092

I may here mention that before removal all Meat is subject to a close inspection by the Public Health Officials who detain anything of an unsound or diseased nature.

The number of Butchers' Licences issued during the same period was 119. Included in this number were 2 Licences issued under authority of the local Rabbi in connection with the Jewish ritual form of slaughter.

Equipment.

During the year the Machinery and Overhead Equipment has been kept in a good state of preservation, but, owing to severe wear, it was found necessary to have the Electric Hoist thoroughly overhauled and repaired, also repairs executed to the No. 3 Ammonia Refrigerating Plant which has now been in commission for several years. The estimated cost of these works was £165, and when completed should last for a long time.

Repairs to Tripery Premises.

Extensive repairs were carried out to Roof and Ironwork of Triperies, which had become dangerous owing to the vapour arising from the Boiling Pans penetrating the Roof Lights, &c., thus setting up corrosion. The work was very urgent and cost approximately £75.

General Repairs.

During the past year it was found necessary to carry out rather extensive repairs throughout the entire range of Buildings, as the previous year the amount of money estimated for upkeep had not been expended by the Committee owing to the retrenchment policy that was then being advocated by the Corporation over the entire service. The work executed included repairs to doors, windows, roof lights, spoutings, cement floors, fencing, ventilators, &c., which had all to be put in proper order prior to the painting of the establishment.

Painting.

The Buildings of which there are many were badly in need of painting, also the ironwork throughout, and the Markets Committee invited tenders for the execution of the work which was carried out satisfactorily at a cost of £797 under the special supervision of the City Surveyor's Department.

The carrying out of the repair and painting work has affected a marked improvement in the general appearance of the Abattoir which is now in a particularly fine condition and with a reasonable outlay annually should be maintained in its present satisfactory state.

The Cattle Lairages, Sheep Lairages, Pig Lairages, also the various Slaughter Pens throughout the Premises, have been kept systematically cleansed with a plentiful supply of water and where permissible disinfectants have been freely applied to keep the Buildings in a thoroughly clean and sanitary condition.

(Signed),

GEORGE A. KINNING,

Markets and Abattoir Department,
Belfast.
27th April, 1932.

Superintendent of Markets,
and Manager of the Abattoir.

BOVINE TUBERCULOSIS (N.I.) ORDER, 1926.

Under the Bovine Tuberculosis (N.I.) Order, 1926, which takes the place of the Bovine Tuberculosis (Ireland) Order, 1914, it is the duty of Local Authorities to examine all bovine animals suffering from Tuberculosis in certain specified forms.

The Order requires every person having in his possession or under his charge

- (a) A cow which is, or appears to be, suffering from tuberculosis of the udder, indurated udder or other chronic disease of the udder ; or
- (b) Any bovine animal which is, or appears to be, suffering from tuberculous emaciation ; or
- (c) Any bovine animal which is suffering from a chronic cough and showing definite clinical signs of tuberculosis,

to give information of the fact to a Constable of the Police Force for the area wherein the animal is, and the Constable in turn must transmit the information to the Local Authority and to the Department of Agriculture.

As soon as the information has been received by the local authority the animal is examined by their Veterinary Inspector who furnishes the local authority with the report of such examination. If the Inspector's report shows that the animal is suffering from the disease it is the duty of the local authority to notify the owner that it is their intention to slaughter the animal unless he (the owner) objects, notice of which must be given by him in writing to the local authority. If the owner objects the local authority cannot carry out the slaughter until authorised by the Department of Agriculture.

When an animal has been slaughtered a post-mortem examination is carried out by the Veterinary Inspector and a certificate of the result of the post-mortem made out by the Veterinary Inspector.

Prior to slaughter a valuation is fixed by the Veterinary Inspector which must be agreed to by the owner. If the certificate of the post-mortem examination shows that the animal was not suffering, the owner is entitled to an amount represented by the full valuation plus a further sum of 20/- as compensation ; if the certificate shows that the animal was suffering from tuberculosis (not being advanced tuberculosis) then the owner receives as compensation an amount equal to three-fourths of the valuation agreed upon, and if the certificate reveals advanced tuberculosis one-fourth of the valuation is paid to the owner.

Owners of suspected animals brought into the City from outside areas have the option of (a) returning them to the districts from which they were brought ; or (b) sending them to the slaughter house or other suitable premises in the district for examination.

During the year 1931, 81 animals were reported as suspicious, which necessitated the examination of 272. Of these 38 were slaughtered and post-mortem examinations carried out, and the remainder were found not suffering on clinical examination. Of the animals slaughtered, 4 were found to be suffering from tuberculosis of the udder ; 21 were affected with other forms of tuberculosis and 13 were not affected. The total amount of compensation paid to the owners was £100 7s. 6d.

REPORT OF PROCEEDINGS UNDER THE CONTAGIOUS DISEASES ANIMALS ACTS FOR THE YEAR 1931.

The following is a list of the scheduled diseases :—Cattle Plague, Foot and Mouth Disease, Pleuro-Pneumonia, Rabies, Glanders, and Farcy, Epizootic Lymphangitis, Sheep Pox, Anthrax, Sheep Scab, Contagious Abortion, and Tuberculosis, this latter on certain defined forms.

FOOT AND MOUTH DISEASE.

During the month of June a serious outbreak of Foot and Mouth Disease occurred at Downpatrick and the Authorities found it necessary to place severe restrictions upon the movement of animals in the whole of the County of Down and also on all movements of live stock in the County Borough of Belfast.

Under special conditions the sale of fat stock was permitted in the City, this necessitated the utmost vigilance with a view to the prevention of infringements of the regulations and for the detection of any animals showing symptoms of a suspicious nature.

Happily the disease was confined to the specifically restricted area in County Down and was eradicated in a remarkably short period, much to the satisfaction of owners and traders of livestock.

EQUINE DISEASES.

No case of scheduled disease of Equines was observed or reported in the County Borough during the year under review.

SHEEP SCAB.

Two outbreaks of Sheep Scab were discovered in the Belfast Sale yards and one outbreak was at the Belfast Export Stock yard.

The usual precautionary measures were adopted in connection therewith and steps of a preventative and curative nature taken.

SWINE FEVER.

Of the twenty-nine suspected outbreaks of Swine Fever reported, seventeen were confirmed. These were dealt with by the Central Authority.

For some years past the Ministry of Agriculture has dealt directly with outbreaks of Swine Fever, the procedure being to slaughter all diseased and in-contact pigs, and restrict the movement of animals which may have been exposed to infection.

All infected premises are efficiently cleansed and disinfected and a defined period allowed to elapse before re-stocking is permitted.

BOVINE TUBERCULOSIS.

Twenty-five outbreaks of Bovine Tuberculosis as defined by the Bovine Tuberculosis (N.I.) Order of 1926 were dealt with.

Fifteen of these were reported by owners of dairy herds in the City, six were found exposed for sale at the sale yards and four were detained at the export Stock yards.

Of the cases reported by City owners five were found to be "advanced," and ten "not advanced" cases of Tuberculosis.

Of those found in the Sale yards one was classified as "advanced" and five "not advanced" Tuberculosis, and of the animals detained at the Port, one was placed in the "advanced" category and four in the "not advanced."

The classification is made as a result of post-mortem examination in each case and is in accordance with the directions embodied in the Bovine Tuberculosis (N.I.) Order of 1926.

In addition to the above a number of suspected animals were subjected to critical examination and found to be "not affected" within the meaning of the Order.

These examinations in most cases entailed the microscopical examination of Udder secretions, and in some cases the application of the Tuberculin Test.

Nine samples of milk taken by officials of the City Council and which were subjected to examination and biological investigation by the City Bacteriologist were found to have contained tubercle bacilli.

The dairy herds on the farms at which those milk samples were produced were subjected to critical examination with the result that diseased animals were found and subsequently removed for slaughter under the provisions of the Bovine Tuberculosis (N.I.) Order of 1926.

INSPECTION OF SALE YARDS AND LAIRAGES.

The Sale yards of which there are three each holding bi-weekly auctions for cattle and sheep and weekly sales of swine were constantly visited and the stocks exposed subjected to general observation.

Cleansing and disinfection of those yards and lairages of private owners were efficiently carried out.

Railway termini were visited from time to time and found at all times to have been kept in a satisfactory manner.

MOTOR TRANSPORT.

As far as has been practicable road transport has been kept under observation and having regard to the fact that such vehicles are not subjected to any official regulations it is gratifying to report that nothing of an untoward nature came under notice.

That such vehicular animal traffic should be brought within the purview of the Authorities and defined regulations governing their use promulgated is in my opinion a pressing necessity both as regards the safety of the animals carried and the prevention of the spread of disease.

I understand that the Ministry of Agriculture has these matters under consideration.

J. EWING JOHNSTON,

M.B.E., M.R.C.V.S.

INFECTIOUS DISEASES.

SCARLET FEVER.

1,169 notifications of Scarlet Fever were received during the year, but on investigation 34 were found not suffering from the disease. In addition to those notified 8 cases notified as Diphtheria or other illness were found to be suffering from Scarlet Fever, which made the total number that occurred during the year 1,143; an attack rate of 2.75 per 1,000 of the population.

The number of cases which occurred during the preceding year was 1,102, and the average number notified annually during the ten years 1921-1930 was 1,174.

The disease continued to be of a mild type, only 13 deaths being registered during the year under review, equivalent to the low case mortality rate of 1.1 per cent or a death rate of 0.03 per 1,000 of the population. The number of deaths registered during the preceding year was 7, and the average number registered annually during the 10 years 1921-1930 was 21.

DIPHTHERIA.

562 cases were notified but on investigation 70 were found not suffering from the disease; this made the total number of cases that occurred during the year 492, an attack rate of 1.19 per 1,000 of the population.

The number of cases that occurred during the preceding year was 566, and the average number notified annually during the 10 years 1921-1930 was 473; 13 deaths were registered, equivalent to a case mortality rate of 2.6 per cent., or a death rate of 0.03 per 1,000 of the population.

The number of deaths registered during the preceding year was 22 and the average number registered annually during the 10 years 1921-1930 was 29.

The procedure adopted last year of allowing "contact" children to return to school in 2 days if their throat swabs were found "negative" has been continued. This arrangement has given entire satisfaction. It is claimed that by adopting such a procedure much valuable school time is saved and the early detection of a secondary infected child or a diphtheria "carrier" is more easily accomplished.

The number of throat swabs taken from contacts and bacteriologically examined during the year was 1,599, of these 61 were positive.

DIPHTHERIA ANTITOXIN.

Stocks of Diphtheria Antitoxin are kept at six depots in the city. Medical Practitioners may make use of the Antitoxin in urgent cases which are attended at night or during the times when the supply of Antitoxin from chemists is not available. During the year 55 phials of 4,000 units of Antitoxin were issued from these depots. This Antitoxin was provided free of charge in necessitous cases, in others the supply was replenished at the expense of the patients.

A reference to the report of the City Bacteriologist will show that the Medical Practitioners in the city are making fuller use of the Municipal Laboratory in the bacteriological examination of throat swabs, and this practice is to be encouraged, as a mistaken diagnosis is more liable to occur in the absence of bacteriological examination.

TYPHOID FEVER.

53 cases were notified, 5 of which were found on investigation not suffering from the disease, and 1 case was found to have contracted the disease outside the city, which made the actual number of cases that occurred in the city 47, an attack rate of 0.1 per 1,000 of the population. Of the 47 city cases 2 were treated at home and 45 in hospital. 12 of the cases treated in hospital were typhoid and 33 were paratyphoid B.

The number of cases which occurred during the preceding year was 29, and the average number notified annually during the 10 years 1921-1930, was 98.

1 death was registered, equivalent to a case mortality rate of 2.1 per cent., or a death rate of 0.002 per 1,000 of the population.

The number of deaths registered during the preceding year was 2, and the average number registered annually during the 10 years 1921-1930, was 8.

TABLE No. XVII.

Shewing the annual death rate per 1,000 of the population from Typhoid Fever during the 20 years 1912-1931, also the average rate for quinquennial periods.

Year		Rate		Year		Rate
1912	..	0.04	0.05	1922	..	0.02
1913	..	0.05		1923	..	0.01
1914	..	0.07		1924	..	0.007
1915	..	0.02		1925	..	0.04
1916	..	0.05		1926	..	0.01
1917	..	0.10	0.06	1927	..	0.02
1918	..	0.06		1928	..	0.03
1919	..	0.04		1929	..	0.01
1920	..	0.08		1930	..	0.005
1921	..	0.04		1931	..	0.002

Average annual death rate for twenty years, 1912-1931, 0.035.

EPIDEMIC ENCEPHALITIS.

3 cases were notified during the year. This disease, known also as Encephalitis Lethargica or "sleepy sickness" now appears to be on the decline, although we still have about 80 persons, mostly young adults, suffering from the after effects of the disease which appeared in epidemic form in May and June, 1924, in the city. A large proportion of these "chronic" cases are of the Parkinsonian type; they show more or less mental or physical impairment. Although much work has been done in elucidating the problem as to the cause and cure of the disease, we are still without success in its solution. Attention has frequently been called to the necessity of making special provision for the hospital or institutional treatment of these patients as they are mostly unsuitable for treatment in a general hospital, but the question is beset with many difficulties and the existing arrangements appear to be the best obtainable at the moment.

It is fortunate that very few of the acute type occur, as the disease is one of the most terrible, in its immediate and after effects, from which anyone can suffer.

ACUTE POLIOMYELITIS.

2 cases of this disease were notified and in addition one case notified as Diphtheria was found to be suffering from Acute Poliomyelitis, which made the total number of cases that occurred during the year 3. The average number notified annually during the ten years 1921 to 1930 was 2.

ERYSIPELAS.

110 cases were notified during the year, an attack rate of 0.26 per 1,000 of the population.

The number which occurred in the preceding year was 109, and the average number notified annually during the 10 years 1921-1930, was 84.

CEREBRO-SPINAL FEVER.

20 cases were notified during the year, 4 of which were found not to be suffering from Cerebro-Spinal Fever, making a total of 16 cases ; an attack rate of 0.04 per 1,000 of the population.

MEASLES.

4,430 cases of Measles were notified during the year one of which was found not suffering, but 8 cases notified as Scarlet Fever and one as Diphtheria were found to be suffering from Measles, which made the total number of cases that occurred 4,438. 133 deaths were registered equivalent to a death rate of 0.32 per 1,000 of the population. The number registered during the preceding year was 6 and the average number registered annually during the 10 years 1921-1930 was 81.

WHOOPIING COUGH.

32 deaths were registered during the year, equivalent to a death rate of 0.08 per 1,000 of the population. The number registered during the preceding year was 65 and the average number registered annually during the 10 years 1921-1930, was 102.

DIARRHOEA.

100 deaths were registered as having been caused by this disease during the year, equivalent to a death rate of 0.24 per 1,000 of the population.

The number registered during the preceding year was 116, and the average number registered annually during the 10 years 1921-1930, was 190.

PUERPERAL FEVER.

15 cases of this disease were notified. The number of cases notified during the preceding year was 20, and the average number notified annually during the 10 years 1921-1930, was 17.

TABLE XVIII.

Shewing the rate per 1,000 of the population of cases of Infectious Diseases notified, pursuant to the Infectious Disease (Notification) Act, 1889, during the twenty years 1912-1931 ; also the average for the quinquennial periods.

Year		Rate	Year		Rate
1912	..	3.7	1922	..	3.5
1913	..	7.6	1923	..	3.4
1914	..	7.5	1924	..	5.6
1915	..	6.2	1925	..	5.3
1916	..	3.8	1926	..	4.5
		5.8			4.5
1917	..	2.7	1927	..	4.6
1918	..	2.0	1928	..	6.5
1919	..	8.4	1929	..	3.6
1920	..	6.5	1930	..	4.7
1921	..	3.4	1931	..	15.3
		4.6			6.9

The increase in the rate for the year 1931 was caused by the notification of 4,430 cases of Measles. In former years this disease was not notifiable.

ZYMOTIC DISEASES.

292 deaths were caused by Zymotic Diseases during the year, equivalent to 5.0 per cent. of the total number of deaths registered from all causes, or a Zymotic death rate of 0.7 per 1,000 of the population. During the preceding year the deaths from Zymotic Diseases numbered 218, equivalent to 4.0 per cent. of the total deaths or a death rate of 0.5

One, or 0.3 per cent. of the total deaths from Zymotic Diseases were caused by Typhoid Fever ; 133 or 45.5 per cent. by Measles ; 13 or 4.45 per cent. by Scarlet Fever ; 32 or 10.96 per cent. by Whooping Cough ; 13 or 4.45 per cent. by Diphtheria ; and 100 or 34.25 per cent. by Diarrhoea.

The diseases from which the greatest number of deaths were registered were Measles, Diarrhoea and Whooping Cough the figures being respectively 133, 100 and 32. The comparative figures for the preceding year were 6, 116 and 65 respectively..

TABLE XIX.

Shewing the annual death rate per 1,000 of the population from Zymotic Diseases during the twenty years 1912-1931 ; also the average rate for quinquennial periods.

Year.		Rate		Year		Rate
1912	..	1.7	2.0	1922	..	0.6
1913	..	2.3		1923	..	1.2
1914	..	2.7		1924	..	1.0
1915	..	1.7		1925	..	1.3
1916	..	1.7		1926	..	1.3
1917	..	1.1	1.5	1927	..	0.9
1918	..	1.8		1928	..	1.1
1919	..	1.5		1929	..	0.9
1920	..	1.5		1930	..	0.5
1921	..	1.4		1931	..	0.7

TABLE XX.

Shewing the number of deaths registered as having been caused by the principal Zymotic Diseases, also the annual rate of mortality per 10,000 of the population during the thirty-five years 1897-1931 :—

Year.	POPULATION.	Typhoid Fever		Typhus Fever		Smallpox		Scarlet Fever		Simple Contin'd Fever		Diphtheria		Whooping Cough		Measles		Diarrhoea	
		Number of Deaths.	Annual Rate per 10,000	Number of Deaths.	Annual Rate per 10,000.	Number of Deaths.	Annual Rate per 10,000.	Number of Deaths.	Annual Rate per 10,000	Number of Deaths.	Annual Rate per 10,000.	Number of Deaths.	Annual Rate per 10,000.	Number of Deaths.	Annual Rate per 10,000	Number of Deaths.	Annual Rate per 10,000.	Number of Deaths.	Annual Rate per 10,000.
1897	310,000	354	11.4	5	0.1	..	..	32	1.0	16	0.5	38	1.2	187	6.0	124	4.0	355	11.4
1898	340,000	640	18.8	1	0.03	..	..	21	0.6	22	0.6	87	2.6	109	3.2	54	1.6	356	10.5
1899	350,000	263	7.5	1	0.03	..	..	24	0.7	10	0.3	61	1.7	215	6.1	146	4.2	285	8.1
1900	359,000	261	7.3	2	0.05	..	..	14	0.4	8	0.2	54	1.5	115	3.2	42	1.2	241	6.7
1901	350,862	341	9.7	8	0.2	1	0.03	13	0.4	26	0.7	65	1.9	162	4.6	240	6.8	292	8.3
1902	360,000	169	4.7	3	0.08	1	0.03	15	0.4	12	0.3	66	1.8	208	5.8	349	9.7	204	5.7
1903	360,000	136	3.8	4	0.1	..	..	24	0.7	18	0.5	40	1.1	168	4.7	125	3.5	277	7.7
1904	360,000	111	3.1	6	0.2	8	0.2	21	0.6	8	0.2	28	0.8	260	7.2	196	5.4	251	7.0
1905	360,000	128	3.6	1	0.03	1	0.03	35	1.0	6	0.2	32	0.9	24	0.7	227	6.3	295	8.2
1906	366,220	90	2.5	3	0.08	..	..	26	0.7	9	0.2	41	1.1	331	9.0	29	0.8	376	10.3
1907	370,163	82	2.2	3	0.08	..	..	13	0.3	2	0.05	38	1.0	64	1.7	201	5.4	212	5.7
1908	380,344	57	1.5	10	0.26	..	..	4	0.1	2	0.05	33	0.9	137	3.6	186	4.9	260	6.8
1909	386,576	20	0.5	..	..	..	..	4	0.1	2	0.05	18	0.4	213	5.5	10	0.3	244	6.3
1910	391,167	18	0.5	1	0.03	..	..	18	0.5	5	0.1	27	0.7	259	6.6	504	12.9	241	6.2
1911	386,449	15	0.4	2	0.05	..	..	37	1.0	..	..	32	0.8	67	1.7	2	0.05	290	7.5
1912	391,974	17	0.4	2	0.05	..	..	48	1.2	..	..	37	0.9	217	5.5	171	4.4	159	4.1
1913	396,000	22	0.6	1	0.03	..	..	153	3.9	..	..	53	1.3	41	1.0	182	4.6	458	11.6
1914	399,000	26	0.7	11	0.3	..	..	168	4.2	..	..	31	0.8	205	5.1	205	5.1	457	11.5
1915	403,000	10	0.2	..	..	..	..	107	2.7	..	..	27	0.7	134	3.3	177	4.4	240	6.0
1916	390,000	19	0.5	4	0.1	..	..	52	1.3	..	..	28	0.7	120	3.1	191	4.9	236	6.1
1917	393,000	39	1.0	6	0.15	..	..	11	0.3	..	..	22	0.6	57	1.5	98	2.5	180	4.6
1918	393,000	25	0.6	3	0.08	..	..	12	0.3	..	..	30	0.8	317	8.1	111	2.8	205	5.2
1919	401,000	17	0.4	1	0.02	..	..	138	3.4	..	..	30	0.7	9	0.2	137	3.4	263	6.6
1920	413,000	34	0.8	9	0.2	..	..	94	2.3	..	..	45	1.1	84	2.0	132	3.2	223	5.4
1921	420,000	15	0.4	3	0.07	..	..	11	0.3	..	..	31	0.7	222	5.3	17	0.4	279	6.6
1922	425,000	7	0.2	..	..	..	..	12	0.3	..	..	43	1.0	16	0.4	33	0.8	152	3.6
1923	429,000	4	0.09	..	..	..	..	26	0.6	..	..	24	0.6	182	4.2	126	2.9	154	3.6
1924	434,000	3	0.07	..	..	..	..	57	1.3	..	..	23	0.5	89	2.0	83	1.9	166	3.8
1925	438,000	18	0.41	..	..	..	..	49	1.1	..	..	38	0.9	99	2.3	167	3.8	203	4.6
1926	416,000	6	0.1	..	..	..	..	12	0.3	..	..	44	1.1	46	1.1	132	3.2	287	6.9
1927	416,000	8	0.2	..	..	..	..	10	0.2	..	..	30	0.7	117	2.8	1	0.02	195	4.7
1928	415,151	13	0.3	1	0.02	..	..	21	0.5	..	..	16	0.4	50	1.2	169	4.1	196	4.7
1929	415,151	4	0.1	..	..	..	..	8	0.2	..	..	19	0.5	138	3.3	77	1.9	149	3.6
1930	415,151	2	0.05	..	..	..	..	7	0.2	..	..	22	0.5	65	1.6	6	0.1	116	2.8
1931	415,151	1	0.02	..	..	..	..	13	0.3	..	..	13	0.3	32	0.8	133	3.2	100	2.4

TABLE XXI.

Showing the number of cases of Infectious Diseases notified pursuant to the Infectious Disease (Notification) Act, 1889, during the ten years, 1922-1931.

	Typhus Fever	Typhoid Fever	Scarlet Fever	Continued Fever	Diph- theria	Mem- braneous Group	Small Pox	Cerebro- Spinal Meningitis	Polio- myelitis	Puerperal Fever	Erysipe- las	Relapsing Fever	Encephal- itis Lethargica	Ophthal- mia Neo- natorum	Measles
1922	...	80	750	...	519	3	...	11	4	17	71	...	2	13	...
1923	...	46	984	1	289	7	...	3	1	13	89	...	20	11	...
1924	...	44	1818	...	280	6	...	...	1	9	42	...	221	6	...
1925	...	143	1657	3	419	4	...	5	...	5	54	...	10	6	...
1926	...	84	997	...	599	4	...	9	3	37	120	...	17	5	...
1927	...	168	1113	1	484	2	...	10	4	20	85	...	8	9	...
1928	...	186	1783	1	628	1	...	7	1	14	84	...	1	8	...
1929	...	76	721	2	484	1	...	11	1	23	122	...	5	46	...
1930	...	32	1132	...	618	...	...	24	9	20	109	...	2	...	11
1931	...	53	1169	...	562	...	...	20	2	15	110	...	3	...	4430

TABLE XXII.

Showing by Registrar's Districts the number of cases of Infectious Diseases notified pursuant to the Infectious Disease (Notification) Act, 1889.

DISTRICT.	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Simple Continued Fever.	Puerperal Fever.	Relapsing Fever.	Smallpox.	Diphtheria	Membrane- ous Croup.	Erysipelas	Cerebro- Spinal Meningitis.	Poliomye- litis.	Encephalitis. Lethargica.	Total
1. Dock	..	4	32	..	4	..	..	13	..	3	3	..	..	59
2. Duncairn	..	3	123	..	..	..	..	43	..	19	4	..	..	192
3. Shankill	..	3	181	..	2	..	..	79	..	12	4	..	..	281
4. Workhouse	..	2	137	..	3	..	..	120	..	14	2	..	..	278
5. Millfield	..	..	65	..	2	..	..	15	..	..	..	..	..	82
6. College	..	8	74	..	..	..	..	46	..	7	3	..	..	138
7. Greencastle	..	19	8	..	..	..	..	10	..	..	..	..	..	37
8. Ligoniel	..	..	11	..	..	..	..	7	..	1	..	..	..	19
9. Falls	..	8	82	..	..	..	..	39	..	6	2	..	2	139
10. Woodvale	..	..	89	..	1	..	..	44	..	6	2	2	..	144
11. Ravenhill	..	2	169	..	2	..	..	52	..	18	..	..	1	244
12. Ballynacarrett	..	..	70	..	..	..	..	33	..	7	..	..	..	110
13. Ballyhackamore	..	3	73	..	..	..	..	27	..	9	..	..	..	112
14. Ballynaghan	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15. Central	..	1	17	..	1	..	..	18	..	3	..	..	..	40
16. Pottinger	..	..	38	..	..	..	..	16	..	5	..	..	..	59
Total	..	53	1,169	..	15	..	..	562	..	110	20	2	3	1,934

TABLE XXIII.

Showing by ages and sexes the number of cases of Infectious Diseases notified, pursuant to the Infectious Disease (Notification) Act, 1889.

DISEASE.	Under 1 Year.		1 Year and under 2 Years.		2 Years and under 5 Years.		5 Years and under 10 Years.		10 Years and under 15 Years.		15 Years and under 20 Years.		20 Years and under 25 Years.		25 Years and under 45 Years.		45 Years and under 65 Years.		65 Years and upwards.		Age unknown.		Total No. Males.	Total No. Females.	Grand Total.
	M		F		M		F		M		F		M		F		M		F		M	F			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F			M	F	
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid Fever	..	..	..	..	1	1	4	3	1	5	1	6	3	6	5	11	1	4	..	1	..	..	16	37	53
Scarlet Fever	..	7	3	30	32	142	236	271	64	85	12	21	9	21	19	29	1	2	..	..	6	7	526	643	1169
Simple Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	11	..	..	..	..	..	1	..	15	15
Relapsing Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria	..	6	7	21	17	47	62	99	101	29	33	12	20	10	18	16	19	1	5	..	20	19	261	301	562
Membraneous Croup	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	..	..	1	..	..	..	..	..	..	..	..	3	..	2	10	14	15	18	4	..	23	20	52	58	110
Cerebro-Spinal Meningitis	..	2	2	..	1	1	1	4	2	1	..	..	1	..	1	1	1	1	..	..	..	..	9	11	20
Poliomyelitis	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	2
Encephalitis Lethargica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	..	..	..	..	2	1	3
Total	15	13	52	50	191	236	340	379	96	124	25	51	23	49	52	86	20	30	4	1	50	47	68	1,066	1,934

MEASLES .. 4,430

INFECTIOUS DISEASES.

NOTIFICATIONS.

TABLE XXIV.

Shewing the number of cases of Infectious Diseases notified pursuant to the Infectious Disease (Notification) Act, 1889, as having occurred in each of the four quarters.

DISEASE	Quarter Ended				TOTAL
	4th April, 1931	4th July, 1931	3rd Oct., 1931	2nd Jan., 1932	
Typhus Fever	..	..	..	..	..
Typhoid Fever	9	2	15	27	53
Scarlet Fever	302	241	232	394	1,169
Simple Fever	..	..	..	..	..
Puerperal Fever	5	6	..	4	15
Relapsing Fever	..	..	..	..	..
Smallpox	..	..	..	..	..
Diphtheria	255	122	88	97	562
Membranous Croup	..	..	..	..	..
Erysipelas	32	17	22	39	110
Cerebro Spinal Meningitis	7	5	3	5	20
Poliomyelitis	1	..	1	..	2
Encephalitis Lethargica	1	2	..	..	3
Measles	3,612	745	39	34	4,430
Total	4,224	1,140	400	600	6,364

CORRECTED DIAGNOSIS.

5 Cases notified as Typhoid Fever ; 34 as Scarlet Fever ; 70 as Diphtheria ; 4 as Cerebro-Spinal Meningitis ; and 1 as Measles were found not suffering from the diseases notified. Of these, 8 cases notified as Scarlet Fever were found to be suffering from Measles ; 7 cases notified as Diphtheria and 1 as Measles, were found to be suffering from Scarlet Fever. 1 case notified as Diphtheria was found to be suffering from Measles and 1 case notified as Diphtheria was found to be suffering from Acute Poliomyelitis. The remainder were not suffering from any notifiable infectious disease.

TABLE No. XXV.

Shewing the number of deaths from Cancer and Malignant Tumours for the year 1931 as compared with the preceding 5 years.

Year.	Under																				Grand Total		M	F	
	1	2	3	4	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85 and over				
1931	..	..	..	2	1	1	1	2	..	5	7	21	21	36	58	78	87	75	57	46	11	..	508	235	273
1926	..	1	..	1	1	1	1	..	2	1	9	14	22	42	66	74	66	49	42	25	6	2	424	174	250
1927	1	1	2	..	..	1	1	2	2	2	5	11	19	39	55	72	73	46	58	28	12	1	430	196	234
1928	2	..	1	..	2	..	2	1	3	3	6	12	30	39	64	83	65	62	50	12	6	6	447	183	264
1929	..	..	1	..	..	2	2	2	1	4	11	13	25	38	70	69	68	48	43	25	13	3	436	184	252
1930	..	..	..	1	..	..	1	1	2	2	7	17	20	39	62	63	80	75	69	31	5	2	476	217	259
TOTALS	3	2	3	1	2	3	4	6	10	12	38	67	116	197	317	361	352	280	262	121	42	14	2213	954	1259

It will be seen from the above Table that the average number of deaths registered annually as having been caused by Cancer and other Malignant Tumours during the quinquennial period 1926 to 1930 was 442.6 (190.8 males and 251.8 females). This is equivalent to 7.4 per cent. of the total deaths registered from all Causes. The deaths notified to this department by the several Registrars of Births and Deaths for the City do not correspond with the number shown in the returns of the Registrar General for Northern Ireland.

DISINFECTING STATION.

The work undertaken at the Disinfecting Station includes :—

The disinfection of bedding and clothing from houses where cases of Infectious Diseases have occurred.

The personal bathing and the disinfection of the clothing of persons who have been in contact with Infectious Diseases, and whose business includes the handling of food-stuffs.

The bathing of verminous persons and the cleansing and disinfection of their clothing.

The delivery once per month of a quantity of disinfectants to each non-transferred Public Elementary School in the City.

The disinfection of clothing, etc., intended for export to the Irish Free State, for which service a small charge is made.

The cleansing of Emigrants who have failed to pass the United States Medical Inspector at the port, and the disinfection by steam or otherwise of all their baggage is also undertaken. For this service the various Shipping Companies are charged a fee of £10 for the use of the plant and staff on each occasion, plus a charge of 5/- per person dealt with.

We have also attached to the Disinfecting Station a Store where the various disinfectants are kept, and from where a supply of dilute disinfectants is given out to those poor persons who apply for same.

Tables giving a summary of the various phases of the work done at the Disinfecting Station, and of the work done by the Motor Vans, also of the quantity of disinfectants dealt with, and the distribution of same from the Disinfectant Store during the year will be found in the report.

TABLE XXVI.
SUMMARY OF THE WORK DONE AT THE DISINFECTING STATION AND BY THE
MOTOR VANS FOR THE YEAR.

Work done by Motor Vans.				No. of calls re other work.	Number of Articles Disinfected for		Bottles of dilute Disinfectants issued free to Poor Persons	Disinfection of Persons			Vermineous Persons and Houses		Cleansing of Emigrants			Library Books taken from Infected Dwelling Houses.			Free School Books taken from Infected Houses and Destroyed		
Number of calls at		Gallons of Motor Spirit used	Average Miles per gallon		Infectious Disease Cases			Export to Irish Free State etc.	Bathed		Sprayed	Persons Bathed	Houses Disinfected	No. of Attendances	Cleansed		Free Public Library Books Destroyed	Private Library Books Disinfected and returned		Schools Library Books Destroyed	
Infected Dwelling Houses	Public Elementary Schools.				Mileage	M.			F.	M.					F.	Persons					Packages of Baggage
4,138	967	8234	13.7	31	15,754	5,160	16,301	113	64	215	107	40	77	43	18	11	9	313	122	24	35

TABLE XXVII.
DISINFECTANTS.
IN STOCK AND RECEIVED DURING THE YEAR ENDED DECEMBER 31st, 1931.

	Civic	Septol	Formalin	Paraffin Oil	Crude Oil	Petroleum Fluid	Izal	Sulphur Candles	Carbolic Acid	Virama	Insect Oil	Solution "D"	Zaldecide	Liquid Soap	Pine Spray	Formalin Lamps	Pot Permang. Blocks
	Gals.	Gals.	Gals.	Gals.	Gals.	Gals.	Gals.	Gross	Gals.	Gals.	Gals.	Gals.	Gals.	Gals.	Gals.	Gross	Gross
Stock January 1st, 1931.	88	19	39½	19	37	43	16	½	3	..	..	24½	..	..	..	..	..
Received during 1931	560	..	40	40	40	..	..	..	..	20	10	..	5	40	40	1	1
Total	645	19	79½	59	77	43	16	½	3	20	10	24½	5	40	40	1	1

TABLE XXVIII.
DISTRIBUTION OF DISINFECTANTS DURING 1931

Public Elementary Schools	265	..	59½	..	..	..	2	..	..	..	..	..	..	..	..	½	..
Disinfecting Station	..	..	..	15	25	..	2	..	..	..	..	..	..	..	..	..	1
Drain Testing	30	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..
Vermineous Houses	..	..	..	..	..	..	..	..	..	..	3½	14½	..	½	..	..	..
Insect Spraying	..	..	..	10	20	..	..	..	..	..	..	..	..	..	1	..	..
Schools Medical Service	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
City Hall	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Municipal Laboratory	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Free Distribution	192½	19	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..
In Stock Dec. 31, 1931.	553½	19	59½	25	45	..	4	..	..	8	3½	14½	1	½	1	3½	1
	91½	..	20	34	32	43	12	½	3	12	6½	9½	4½	39½	39	1	..
Total	645	19	79½	59	77	43	16	½	3	20	10	24½	5	40	40	1	1

PURDYSBURN FEVER HOSPITAL.

To the Chairman and Members of the Public Health Committee.
Gentlemen,

I have the honour to present to you the following report on the working of Purdysburn Fever Hospital for the year 1931 (52 weeks ended 2nd January, 1932).

1,962 cases were admitted during this period, there remained from the previous year 326, making a total of 2,288 cases under treatment.

2,096 of these were treated to a conclusion, leaving 192 cases in hospital at the end of the year.

The number of admissions in the previous year had been 2,053 and the average number of admissions in the previous five years 2,019.

TABLE I.

Showing the classification of the cases, and the mortality in cases treated to a conclusion.

Disease.	Remain- ing on 3/1/31	Admitted during year	Total	Remain- ing on 2/1/32	Nett	Died	Mortality % calculated on cases treated to to a conclusion
Enteric—Typhoid	.. 1	12	13	..	13	1	7.69
Enteric—Para A	.. ..	..	..	..	..	..	..
Enteric—Para B	.. 2	35	37	1	36	..	0.00
Typhus	.. ..	..	..	..	..	..	..
Scarlatina	.. 233	1173	1406	155	1251	12	0.96
Diphtheria	.. 79	466	545	29	516	12	2.33
Diphtheria Carrier	.. ..	5	5	..	5	0	0.00
Cerebro-Spinal Fever	.. 1	18	19	1	18	5	27.77
Pneumonia	.. ..	..	..	..	..	..	..
Tubercular Meningitis	.. ..	10	10	1	9	6	66.66
Other Diseases	.. 10	234	244	5	239	22	9.21
Quarantine	.. 0	7	7	0	7	0	0.00
Epidemic Encephalitis	.. ..	..	..	..	..	..	..
Acute Poliomyelitis	.. 0	2	2	0	2	1	50.00
Smallpox	.. ..	..	..	..	..	..	..
Totals ..	.. 326	1962	2288	192	2096	59	2.81
Comparative Numbers in 1930.	153	2053	2206	326	1880	67	3.56

ENTERIC FEVER.

47 cases of Enteric were admitted during the year. These included 12 cases of Typhoid and 35 cases of Paratyphoid B.

There were no cases of Paratyphoid A.

1 case of Typhoid and 2 cases of Paratyphoid B. remained from the previous year, making a total of 13 cases of Typhoid and 37 cases of Paratyphoid B. under treatment.

At the end of the year 1 case of Paratyphoid B. remained over.

Thus 13 cases of Typhoid and 36 cases of Paratyphoid B. were treated to a conclusion.

Total enterics 49, of whom 1 died ; case mortality 2.04 per cent.

Of the 47 admissions 45 came from the city and 2 from outside the city boundary.

In the previous year the admissions numbered 31.

The average number of admissions in the previous five years was 109.

TABLE II.

Showing the case mortality in age periods in Typhoid (B. Typhosus).

Ages		Cases		Died	Mortality per cent.
Under 5 years	..	..	0	0	0
5—10	..	..	1	0	0.00
10—20	..	..	2	0	0.00
20—30	..	..	6	0	0.00
Over 30	..	..	4	1	25.00
Totals	..	..	13	1	7.69

TABLE III.

Showing the case mortality in age periods in Paratyphoid B.

Ages		Cases		Died	Mortality per cent.
Under 5 years	..	..	2	0	0.00
5—10	..	..	5	0	0.00
10—20	..	..	9	0	0.00
20—30	..	..	7	0	0.00
Over 30	..	..	13	0	0.00
Totals	..	..	36	0	0.00

TABLE IV.

Showing the number of Enteric Fever cases admitted in each month.

January	..	..	6	July	..	..	7
February	..	..	1	August	..	..	3
March	..	..	0	September	..	..	3
April	..	..	1	October	..	..	23
May	..	..	0	November	..	..	0
June	..	..	0	December	..	..	3

DIPHThERIA.

466 cases were admitted during the year, making with the 79 cases remaining from the previous year, 545 cases under treatment.

29 cases still remained in hospital at the end of the year.

516 cases were treated to a conclusion, with 12 deaths giving a case mortality of 2.33 per cent.

Of the 466 admissions, 440 came from the city; 26 from outside the city boundary.

In the previous year the admissions numbered 598.

The average number of admissions in the previous five years was 533.

TABLE V.

Showing the case mortality in age periods.

Ages		Cases	Died	Mortality per cent.
Under 1 year	..	.. 10	2	20.00
1—2	..	.. 27	2	7.41
2—5	..	.. 120	4	3.33
5—10	..	.. 189	1	0.53
10—20	..	.. 109	1	0.92
20—30	..	.. 36	1	2.77
Over 30	..	.. 25	1	4.00
Totals	..	.. 516	12	2.33

LARYNGEAL DIPHTHERIA.

26 cases required operative interference for laryngeal obstruction.
5 cases died giving a case mortality of 19.23 per cent.

TABLE VI.

Showing results in age periods in cases in which intubation of the larynx was performed.

Ages		Cases	Died	Mortality per cent.
Under 1 year	..	.. 4	2	50.00
1—2	..	.. 5	2	40.00
2—3	..	.. 3	0	0.00
3—4	..	.. 5	1	20.00
4—5	..	.. 6	0	0.00
Over 5	..	.. 3	0	0.00
Totals	....	.... 26	5	19.23

DIPHTHERIA "CARRIER."

5 cases of Diphtheria Carriers were admitted during the year, and all were treated to a satisfactory conclusion.

CEREBRO-SPINAL FEVER.

18 cases of Cerebro-Spinal Fever were admitted during the year, and with one case remaining from the previous year made a total of 19 cases under treatment.

1 case remained at the end of the year so that 18 cases were treated to a conclusion. Of these 5 died giving a case mortality of 27.77 per cent.

TABLE VII.

Showing the case mortality in age periods.

Ages		Cases	Died	Mortality per cent.
Under 1 year	..	.. 3	1	33.33
1—5	..	.. 4	1	25.00
5—10	..	.. 3	1	33.33
10—20	..	.. 3	0	00.00
20—30	..	.. 3	1	33.33
Over 30	..	.. 2	1	50.00
Totals	..	.. 18	5	27.77

TUBERCULAR MENINGITIS.

10 cases of Tubercular Meningitis were admitted during the year. 1 case remained over at the end of the year so that 9 cases were treated to a conclusion. 6 of these died giving a case mortality of 66.66 per cent. Of the 3 discharges 2 died shortly afterwards and 1 made an apparently complete recovery.

ACUTE POLIOMYELITIS.

2 cases of Acute Poliomyelitis were admitted during the year. One of these ended fatally. The other case recovered and was discharged with a considerable amount of permanent paralysis.

PNEUMONIA.

There were no admissions of Pneumonia during the year.

EPIDEMIC ENCEPHALITIS.

There were no admissions of Epidemic Encephalitis during the year.

TYPHUS.

There were no admissions of Typhus Fever during the year.

SCARLATINA.

1,173 cases were admitted during the year, making, with 233 cases remaining over from the previous year a total of 1,406 cases under treatment.

155 cases still remained in hospital at the end of the year, so that 1,251 cases were treated to a conclusion.

12 of these ended fatally giving a case mortality of 0.96 per cent.

Of the 1,173 admissions 1,125 came from the city and 48 from outside the city boundary.

In the previous year 1,178 cases were admitted.

The average number of admissions in the previous five years was 1,162.

TABLE VIII.
Showing the case mortality in age periods.

Ages		Cases	Died	Mortality per cent.
Under 1 year	..	.. 8	1	12.50
1—2	..	.. 57	3	5.26
2—5	..	.. 330	3	0.91
5—10	..	.. 559	3	0.54
10—20	..	.. 203	0	0.00
20—30	..	.. 54	0	0.00
Over 30	..	.. 40	2	5.00
Totals	..	1,251	12	0.96

“ RETURN CASES.”

In 55 instances the return home of a patient from hospital was followed by other cases in the house, giving a return case rate of 4.4 per cent. On the average these 55 cases had reached the 36th day from the onset of the disease when they were discharged.

OTHER DISEASES.

234 cases of " Other Diseases " were admitted during the year. These included cases admitted for observation and which did not develop any of the ordinary infectious diseases, and also members of the staff who became ill from causes other than infectious diseases, and who were warded in the Isolation Pavilion for the convenience of nursing.

10 cases remained from the previous year, and 5 cases remained at the end of this year, so that the number of cases treated to a conclusion was 239.

Of these 22 died giving a case mortality of 9.21 per cent.

The causes of these deaths were as follows :—

Pneumococcal Meningitis	..	6	Middle Ear Disease and Hemiplegia	1
Streptococcal Meningitis	..	3	Marasmus	.. 2
Broncho-Pneumonia	..	4	Acute Bronchitis	.. 1
Streptococcal Empiema	..	1	Spasmodic Laryngitis	.. 1
Mediastino-Pericarditis..	..	1	Cystitis	.. 1
			Whooping Cough	.. 1

INFECTIOUS DISEASES AMONGST THE STAFF.

2 Nurses developed Diphtheria.
 1 Nurse developed Scarlatina.
 1 Nurse developed Mumps.
 All made good recoveries.

The Staff at the end of the year consisted of :—

1 Medical Superintendent.	1 Foreman Gardener.
1 Resident Medical Officer.	3 Groundsmen.
1 House Physician.	1 Matron.
1 Steward.	1 Assistant Matron.
1 Clerk.	1 Night Superintendent.
1 Storekeeper.	1 Night Superintendent (joint).
1 Engineer.	1 Housekeeper.
2 General Mechanics.	9 Ward Sisters.
3 Motor Drivers.	33 Nurses.
1 Van Man.	1 Seamstress.
4 Firemen.	1 Head Laundress.
1 Pumping Station Engine Man.	5 Laundry Maids.
5 Day Porters.	1 Cook.
1 Gate Porter.	2 Kitchen Maids.
1 Night Porter.	10 Ward Maids.
1 Disinfecter.	5 General Maids.

Throughout the year the staff have discharged their responsible duties very satisfactorily.

I am,

Gentlemen,

Your obedient Servant,

A. GARDNER ROBB,
 Visiting Physician in Charge.

BELFAST UNION FEVER HOSPITAL.
SUMMARY FOR 1931

Disease	Remaining 27/12/30	Admitted to Hospital	Total	Remaining 2/1/32	Nett Total	No. of Deaths	% Mortality
Typhoid	..	2	2	..	2	..	0.0*
Measles	15	504	519	..	519	57	10.98
Scarlatina	19	70	89	..	89	..	0.0*
Whooping Cough	4	60	64	16	48	5	10.42
Mumps	..	37	37	1	36	..	0.0
Chicken-pox	2	65	67	8	59	..	0.0
Erysipelas	7	71	78	6	72	5	6.94
Diphtheria	..	47	47	..	47	1	2.13*
Pneumonia	7	28	35	4	31	..	0.0
Tonsilitis	7	236	243	9	234	4	1.71
Chronic Epidemic Encephalitis	22	14	36	25	11	..	0.0
Tubercular Meningitis	..	10	10	..	10	10	100.0
Influenza	4	36	40	1	39	1	2.56
Quarantine	..	13	13	1	12	..	0.0
Acute Polio-Encephalitis	..	2	2	..	2	2	100.0
Tetanus	..	1	1	..	1	1	100.0
Cerebro-Spinal Fever	..	1	1	..	1	..	0.0*
Streptococcal Meningitis	..	1	1	..	1	1	100.0
Enterococcal Meningitis	..	1	1	..	1	1	100.0
Rubella	..	..	..	..	..	..	..
Epidemic Encephalitis	..	..	..	..	..	..	..
Total	87	1199	1286	71	1215	88	7.24

*The cases of Typhoid, Scarletina, Diphtheria and Cerebro-Spinal Fever were not all treated to a conclusion many being transferred to Purdysburn Fever Hospital.

MUNICIPAL LABORATORY,
QUEEN'S UNIVERSITY,
BELFAST,

30th May, 1932.

Dear Sir,

I beg to present the report of the work carried out in the laboratory during the year 1931.

The number of specimens submitted for examination was 12,263, an increase of over 200 on the figures of last year.

The work may be summarised in the following way:—

INFECTIOUS DISEASES.

1.—DIPHTHERIA—				
Throat Swabs	..	..	4,500	
Nasal Swabs	..	..	1,097	
Direct Examinations	..	..	200	
Virulence Tests	..	..	22	
			—	.. 5,819
2.—VINCENT'S ANGINA—				
	..	..	..	.. 186
3.—ENTERIC GROUP—				
Agglutination Tests	..	..	429	
Faeces, Blood, Urine, etc.	..	..	40	
			—	.. 469
4.—SCARLATINA—				
	..	..	..	.. 1
5.—TYPHUS—				
Wilson-Weil-Felix Reaction	..	..	..	.. 1
6.—MENINGITIS—				
Cerebro-Spinal Fluids	..	..	286	..
West Swabs	....	..	17	
			—	.. 303
7.—TUBERCULOSIS—				
Sputa	..	..	645	
Pus	..	..	20	
Urine	..	..	112	
Pleural Fluids	..	..	12	
C.S. Fluids	..	..	85	
Faeces, etc.	..	..	3	
			—	.. 877
8.—RINGWORM—				
			..	.. 16
9.—PLAGUE—				
	..	..	..	.. 230

VENEREAL DISEASES.

Wasserman Reactions	..	..	1,621	
Microscopical Examinations..	..	..	207	
			—	.. 1,828

PATHOLOGICAL EXAMINATIONS.

Tumours, etc.	..	..	..	.. 106
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MILK EXAMINATIONS.

Fresh Milk	..	..	377	
Pasteurised Milk	..	..	156	
Examinations for B. Tuberculosis	..	..	646	
			—	.. 1,179

WATER AND FOODSTUFFS.

Waters	..	..	12	
Ice Cream	..	..	28	
Foods	..	..	5	
			—	.. 45

VACCINES.					
Autogenous	..	..	..	41	
Tuberculins	..	..	..	6	
Stock	..	..	..	52	
					99
UNCLASSIFIED EXAMINATIONS.					
Urines, etc.	..	..	..	..	1,104
GRAND TOTAL	..	..	..	..	12,263

In the following tables a more detailed consideration is given to the above groups.

TABLE I.
Swabs Examined for Diphtheria.

Month	Throat Swabs	Pos.	Neg.	Nasal Swabs	Pos.	Neg.	From Doctors	From Hosps.	School Med. Ser.	Contacts Pos.	Neg.	Total
January ..	589	121	468	165	24	141	146	324	284	19	248	754
February ..	488	93	395	115	13	102	118	327	158	11	146	603
March ..	666	122	544	181	37	144	214	408	225	20	252	847
April ..	452	81	371	133	16	117	124	322	139	8	127	585
May ..	388	49	339	80	1	79	142	191	135	1	129	468
June ..	318	35	283	56	6	50	105	198	71	1	95	374
July ..	235	33	202	66	15	51	64	147	90	1	106	301
August ..	237	27	210	60	4	56	64	149	84	0	83	297
September ..	300	39	261	99	5	94	95	127	177	6	162	399
October ..	265	43	222	43	1	42	128	110	70	0	71	308
November ..	315	25	290	49	1	48	145	124	95	0	92	364
December ..	247	39	208	50	0	50	103	123	71	0	88	297
Total ..	4,500	707	3,793	1,097	123	974	1,448	2550	1,599	61	1,599	5,597

200 Swabs were examined by the direct method for Diphtheria. Of these, 27 were returned positive.

22 Virulence Tests were performed, of which 15 were positive.

186 Swabs were examined for Vincent's Angina ; in 22 of these the causal organisms were present.

TABLE II.
Blood from Suspected Enteric Group Infections.

Month		Positive			Negative			From Doctors	From Hospitals	Total
		T	A	B	T	A	B			
January ..	..	0	0	1	11	11	10	5	6	11
February ..	..	2	0	0	12	14	14	7	7	14
March ..	..	0	0	0	5	5	5	3	2	5
April ..	..	0	0	0	11	11	11	10	1	11
May ..	..	0	0	0	6	6	6	3	3	6
June ..	..	0	0	0	10	10	10	8	2	10
July ..	..	1	0	3	15	16	13	9	7	16
August ..	..	1	0	0	12	13	13	5	8	13
September ..	..	1	0	0	11	12	12	6	6	12
October ..	..	1	0	17	30	31	14	13	18	31
November ..	..	0	0	0	7	7	7	4	3	7
December ..	..	0	0	1	7	7	6	4	3	7
Total ..	..	6	0	22	137	143	121	77	66	143

Of the 28 positive reactions, 6 were positive to Typhoid, 22 to Paratyphoid B., and none to Paratyphoid A. 2 Tests were made for Dysentery, (Shigae and Flexner X.Y.Z.) and were found to be negative.

Wilson-Weil-Felix tests were done on 1 sample of blood, all of which were negative. 1 Test was done for B. Aertrycke, Newport, Mutton and Stanley ; and one test was done for B. Gaertner.

TABLE III.

Examination of Sputa for B. Tuberculosis, Etc.

Source	Positive	Negative	Total
Hospitals	0	21	21
General Practitioners ..	116	508	624
Total	116	529	645

56 Specimens of Sputa were examined for organisms other than B. Tuberculosis.

TABLE IV.

Examinations of Cerebrospinal Fluids.

Month	B. Tuberculosis		Meningococci		Other Organisms		Protein	Total
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.		
January	1	7	5	8	0	0	0	21
February	0	9	3	9	5h.s.	1	0	27
March	0	13	8	13	0	13	0	47
April	1	11	4	12	1p	9	0	38
May	2	4	3	5	1p	5	0	20
June	1	5	0	7	0	6	0	19
July	0	5	3	7	1p	7	0	23
August	2	6	0	8	4p	6	0	26
September	0	0	0	0	0	0	0	0
October	0	4	0	4	0	4	0	12
November	0	6	0	8	0	8	0	22
December	0	8	1	9	1h.s.	8	4	31
Totals	7	78	27	90	13	67	4	286

Of the 13 Cerebrospinal Fluids which contained other organisms, 7 gave pure cultures of Pneumococci, and the other 6, pure cultures of Streptococcus Hemolyticus.

17 West Swabs were taken from contacts and examined for Meningococci. All were negative.

RINGWORM.

16 Specimens of hairs were submitted for examinations ; of these, 6 were infected with the small spored fungus.

TABLE V.

Examinations carried out under the Venereal Diseases Scheme.

The number of specimens submitted during the year was 1,828.

Source of Specimens.

	Blood	Smears
Co. Borough of Belfast.. ..	1,570	199
Co. Antrim.	11	1
Co. Down	13	0
Co. Armagh	2	0
Co. Tyrone	3	0
Co. Fermanagh	0	0
Co. Derry	1	0
Co. Cavan	1	0

The specimens can be grouped as follows :—

Detection of Treponemata	..	..	7
Detection of Gonococci	..	..	200
Wasserman Reactions (Blood)	..	..	1,601
Wasserman Reactions (C.S.F.)	..	..	20

WASSERMAN REACTIONS.

Stage of Syphilis indicated by Clinical Report	No. of Tests	Number Positive	Number Negative
Primary ..	83	21	62
Secondary, Untreated ..	75	17	58
Secondary, Treated ..	34	16	18
Tertiary ..	437	74	363
Latent, Untreated ..	698	85	613
Latent, Treated ..	53	17	36
Congenital ..	203	33	170
Particulars not Stated ..	38	1	37
	<u>1,621</u>	<u>264</u>	<u>1,357</u>

45 Specimens of blood were taken from patients referred to the laboratory by general practitioners.

BACTERIOLOGICAL EXAMINATIONS OF MILK.

During the year 1,179 examinations were made. 377 of these were specimens of fresh milk, 156 were of pasteurised milk, and 113 were examined specially for B. Tuberculosis.

TABLE VI.

This table shows the number and classification per month.

Month	Pasteurised Milk	Fresh Milk	Specially examined for B. Tuberculosis	
January	2	40	12	54
February	5	33	9	47
March	5	30	10	45
April	6	26	10	42
May	12	32	12	56
June	4	40	12	56
July	3	19	2	24
August	2	22	8	32
September	3	33	14	50
October	2	31	13	46
November	10	22	10	42
December	102	49	1	152
	<u>156</u>	<u>377</u>	<u>113</u>	<u>646</u>

TABLE VII.

This table shows the source of the specimens of milk.

Month	Street	Milkshop	Railway	Other Sources	Total
January	24	16	0	2	42
February	25	12	0	1	38
March	20	15	0	0	35
April	19	13	0	0	32
May	15	20	8	1	44
June	17	18	8	1	44
July	10	2	0	10	22
August	14	4	4	2	24
September	19	17	0	0	36
October	16	16	0	1	33
November	20	12	0	0	32
December	28	119	0	4	151
	<u>227</u>	<u>264</u>	<u>20</u>	<u>22</u>	<u>533</u>

Of 377 specimens of fresh milk, 132 contained lactose fermenting organisms in 1/100cc., i.e. 35%.

36 specimens of fresh milk (9.55%) showed more than 200,000 organisms per cc.

Of 156 specimens of Pasteurised milk, 67 contained over 30,000 organisms per cc. A percentage of 42.95%.

101 specimens of pasteurised milks, show B. Coli present in 1/10cc. A percentage of 64.76%.

45 specimens of pasteurised milk show B. Coli present in 1/100cc. A percentage of 28.85%.

646 examinations for B. Tuberculosis were made ; 533 of these were done by the direct method and 113 by the biological method. Of these latter, 5 were infected with live B. Tuberculosis. This gives a percentage of 4.42.

TABLE VIII.

Miscellaneous Examinations.

Urine Examinations, Microscopical ..	267
Urine Examinations, Chemical ..	152
Urine Examinations, Bacteriological ..	359
Pus	191
Pathological Fluids	13
Faeces	18
Blood Cultures	9
Blood Films and Counts	39
Sputa, other than T.B.	56
	<u>1,104</u>

I am, Sir,

Your obedient servant,

To Dr. Thomson, M.S.O.H.,
City Hall,
Belfast.

GEO. F. W. TINSDALE,
City Bacteriologist.

PORT SANITARY AUTHORITY, BELFAST.

The Corporation of Belfast as the Sanitary Authority was permanently constituted the Port Sanitary Authority for the Port of Belfast by the Local Government Board (Ireland) Provisional Orders Confirmation (No. 4) Act, 1900.

The jurisdiction of the Port Sanitary Authority extends to all that part of the said port of Belfast which lies on the landward side of a straight line drawn from Blackhead in the Larne Rural District to Orlock Point in the Newtownards Rural District, together with the waters of the said Port of Belfast within such limits, and all docks, basins, harbours, creeks, rivers, channels, bays and streams within the aforesaid limits, and the place or places which may from time to time be appointed as the Custom's Boarding Station or Stations for such part of the said port and the place or places for the time being appointed for mooring or anchoring of ships for such part of the said port under any regulations for the prevention of the spread of diseases issued under the statutes in that behalf and for the purpose of any regulation as aforesaid shall also extend to any ship which in pursuance thereof, or any directions given thereunder may be moored or anchored at the place appointed thereunder as aforesaid or which may be on its way thither. The expenses of the Port Sanitary Authority are contributed by the Urban and Rural Sanitary Authorities in the following proportions:—

The Corporation of Belfast	..	92%
The Carrickfergus Urban District Council	..	1%
The Holywood Urban District Council	..	1%
The Bangor Borough Council	..	1%
The Belfast No. 1 Rural District Council	..	1½%
The Belfast No. 2 Rural District Council	..	1½%
The Larne Rural District Council	..	1%
The Newtownards Rural District Council	..	1%

It will thus be seen that the area of the Port is extensive, extending 12 miles on the County Antrim Coast and 14 miles on the County Down Coast from Belfast.

The port of Belfast does a very extensive trade with a large number of British Commonwealth and Foreign Ports. During the year vessels arrived from the following ports:—Alexandria 4, Antwerp 54, Akureye 1, Amsterdam 4, Abo 1, Adelaide 2, Archangel 5, Baltimore 10, Buenos Ayres 9, Baton Rouge 5, Buncrana 1, Braila 1, Brest 1, Bona 1, Ballyshannon 1, Bergen 2, Bordeaux 6, Bremen 2, Boco Grande 1, Baytown 2, Brisbane 1, Ballina 1, Constanza 4, Castillon 2, Casablanca 1, Cork 2, Chatham N.B. 1, Carthage 2, Dublin 4, Dunkirk 16, Gubrovnik 1, Danzig 1, Delfzyl 2, Everett 1, Empedorle 1, Freemantle 3, Friedrichstadt 1, Fort William 1, Ghent 48, Galway 5, Gothenburg 27, Gulgong 1, Geraldine 1, Gabota 1, Gravosa 1, Genoa 1, Gavlo 1, Hamburg 53, Havre 3, Heulva 2, Jaffa 2, Kellybegs 1, Kemi 6, Kotka 2, Kherson 1, Leningrad 10, Leghorn 8, Limerick 1, Lisbon 1, La Plata 1, Langesund 1, Mannatellon 1, Marseilles 1, Melbourne 2, Montyluto 1, Miramichi 1, Malaga 1, Makslahti 2, Montreal 14, New Orleans 12, New York 15, Nordmaling 1, Novorriks 1, Nova Scotia 1, Oddo 1, Oslo 2, Odesso 1, Philadelphia 2, Portland Org. 1, Passboro 1, Pugwash 2, Patras 1, Queenstown 1, Rangoon 2, Raumo 2, Riga 24, Rosario 29, Rouen 4, Rotterdam 55, San Nicolas 9, San Lorinza 1, St. Johns 5, Seattle 1, San Francisco 1, Sligo 1, Sundsvall 6, San Pierre 1, Sydney 4, Sfax 1, Tacoma 1, Trangsum 1, Valencia 4, Vancouver 4, Villa Constitution 6, Waterford 1, Walleroo 1, Windaw 1, Yokahama 1.

The nationality of the vessels which arrived was as follows:—American 37, British 1,494, Belgian 1, Danish 7, Dutch 52, Estonian 2, Finnish 4, German 39, Greek 9, Italian 5, Japanese 1, Latvaine 1, Norwegian 24, Portuguese 1, Russian 2, Swedish 4, Spanish 5, Yugo Slav 4.

Table A. Showing the amount of Shipping entering the port.

	Number.	Tonnage	Number Inspected		Number of Defects Reported.	Number on which Defects were Remedied.
			By Medical Officer.	By Sanitary Officer.		
Foreign Steamers ..	567	782,243	25	567	222	211
„ Motors ..	..	..	..	..	..	..
„ Sailing ..	..	..	..	..	..	..
„ Fishing ..	..	..	..	..	..	..
Total Foreign ..	567	782,243	25	567	222	211
Coastwise Steamers ..	6,725	2,816,897	—	1,124	328	310
„ Motors ..	..	..	..	..	..	..
„ Sailing ..	13	..	..	..	..	..
„ Fishing ..	..	..	..	..	..	..
Non-Trading Steamers ..	205	98,079	..	..	..	..
„ Sailing ..	1	..	..	..	..	..
Total Coastwise ..	6,944	2,914,976	..	1,124	328	310
Total Foreign and Coastwise ..	7,511	3,697,219	25	1,691	550	521

II. Character of Trade of Port.

TABLE B.

Inwards ..	..	..	5,500
Outwards ..	..	..	4,289

These figures do not include Cross Channel services.

The countries from which passengers principally arrive are :—Canada and United States of America. Passengers from Europe and Eastern Countries, etc. come through English and Scottish ports which maintain a nightly service with Belfast such as Liverpool, Heysham, Glasgow, Ardrossan and Stranraer.

Cargo Traffic.

Principal Imports : Maize, wheat, timber, flax, ore, paper pulp, hemp, iron, steel, slates, coal, cement, fertilizers, oil, flour, bran, oats, tobacco (leaf), glass, salt, fruits (fresh and dried), vegetables, wines.

Principal Exports : Machinery, ropes, linen, yarn, flax, grass seed, potatoes, tobacco, apples, butter, eggs, poultry, pork, herrings, whiskey, aerated waters.

Countries with which port principally trades : Germany, Holland, Denmark, Sweden, Norway, Latvia, France, Spain, Italy, Belgium, Portugal, Greece, Russia, Egypt, Algiers, Canada, United States of America, South America, India and Australia.

III. Source of Water Supply.

All water used on the Harbour Estate is supplied by the Belfast and District Water Commissioners who have mains and hydrants on all quays and wharves. Two men are employed by them to supply any vessel that makes application for water. There are no water boats at the port.

IV. Infectious Disease.

Vessels entering the port are hailed by officers of H.M. Customs at the Boarding Station. If they obtain information of any sickness on board a report is sent to

the Port Medical Officer of Health. Vessels from "infected ports" or vessels on which infectious disease exists at the time of arrival or has occurred during the voyage are boarded by the Port Medical Officer. All vessels in dock are visited by the Port Sanitary Officer as soon as possible after berthing, who enquires into the occurrence of any sickness during the voyage and if necessary communicates with the Port Medical Officer. Notification of arrivals or expected arrival of vessels with sickness on board are received from H.M. Customs or the Shipping Companies' Agents. The agents frequently receive the information by wireless so that all precautions can be taken prior to the arrival of the vessel. All infectious cases are removed by ambulance to Purdysburn Fever Hospital or Union Fever Hospital, Lisburn Road. Smallpox cases to the Smallpox Hospital, Purdysburn.

The disinfection of the vessel after the removal of an infectious patient is carried out by the Port Sanitary Officer. The infected quarters are sprayed with a 4½% solution of formalin. The clothing, bedding etc. are removed to the Disinfecting Station, Laganbank Road, for disinfection.

Arrangements for Cleansing of Persons.

The cleansing of persons is carried out at the Disinfecting Station, Laganbank Road.

Arrangements for Ambulance Transport.

The motor ambulances attached to Purdysburn Fever Hospital and the Union Fever Hospital are available for infectious cases. The motor ambulances of the Belfast Corporation are available for non-infectious cases.

Arrangements for detection and treatment of Venereal Disease amongst Sailors.

Enquiries as to the existence of Venereal Disease are made by the Port Sanitary Officer. Cards giving information of the facilities available for treatment and hours of attendance are left with the officers and crew. Treatment at the various clinics is free of cost to the patient.

Arrangements for Bacteriological Examination of Rats.

The Bacteriological examination of rats from the port is carried out by the City Bacteriologist at the Municipal Laboratory, Queen's University. During the year 230 were examined for possible plague infection. None were found to be infected. All other bacteriological examinations for the Port Sanitary Authority are carried out by the City Bacteriologist.

TABLE C.

Cases of Infectious sickness landed from vessels.

Disease.	Number of Cases during the year.	Average number of cases for previous 5 years.
Malaria ..	..	1
Influenza ..	1	..
Tuberculosis ..	4	1
Typhoid ..	—	—
Diphtheria ..	—	—
Scarlet ..	—	—
Measles ..	1	..
Chicken Pox ..	1	1
Whooping Cough ..	5	1
Pneumonia ..	—	1

TABLE D.

Cases of infectious sickness occurring on vessels during the voyage but disposed of prior to arrival.

Disease.	Number of Cases during the year.	Average number of cases for previous 5 years.
Influenza ..	2	2
Malaria ..	1	1
Pneumonia ..	1	—

No cases of Cholera, Plague, Yellow Fever, Smallpox or Typhus occurred and no Plague Infected rats were discovered during the year.

Parrots (Prohibition of Import) Regulations 1930.

s.s. Menapier (Belgium) arrived at this port from Freemantle, Australia with a grey African parrot on board. A notice was served on Capt. Arnold (Master) under the above regulations, forbidding the landing of this bird. Subsequently the parrot was exported when vessel sailed from this port.

s.s. Welston arrived at this port with a Brazilian Parrot on board from Villa Constitution. A notice was served on Capt. Lutch (Master) forbidding the landing of this bird. It was subsequently exported when vessel left the port.

s.s. Tavansay arrived from Freemantle with a green parrot on board. A notice was served on the Master, Capt. Harrison, not to land this bird and it was subsequently exported when vessel sailed from this port.

s.s. Duke of Rothesay from Heysham arrived with a love-bird on board, without a permit from the Ministry of Home Affairs to land this bird. A notice was forthwith served on Capt. Raven (Master) to return the bird to Blackpool where it came from. Vessel sailed same evening with bird on board.

s.s. Treharris (British) arrived from Rosario with a Brazilian parrot on board. A notice was served on the Master, Capt. Croome, forbidding the landing of this bird and to export it within 10 days, and it was subsequently exported when vessel sailed from this port.

Measures Against Rats.

Steps taken for the detection of rodent plague : (a) In ships in port. All vessels arriving from ports where plague is endemic are boarded by the Port Sanitary Officer as soon as possible after berthing. Inquiries are made as to any evidence of sickness or deaths amongst rats (if any) on board during the voyage. The vessels are inspected to ascertain the probable rat population on board and if any sick or dead rats are lying about. Traps are set with a view to obtaining samples for bacteriological examination. Such rats as are caught being sent to the Municipal Laboratory for examination by the City Bacteriologist.

(b) On Quays, Wharves and Warehouses. Instructions are given to the owners and employees on the quays, etc., that rats caught or killed should be preserved in airtight tins for the Port Sanitary Officer who arranges for them to be sent to the Municipal Laboratory for bacteriological examination.

Measures taken to prevent the passage of rats between ship and shore : Rat guards are affixed to all moorings of vessels which come from foreign ports and remain so fixed during their sojourn in the port. If the rat population is estimated to be abnormal, all gangways and communications to the shore are lifted at night. A light is also placed on the gangway.

Methods of Deratisation of Ships.

Deratisation of ships is carried out by fumigation with either Sulphur Dioxide or Hydrocyanic Acid Gas. The fumigations are usually carried out by private firms under the supervision of the Port Sanitary Officer. In sulphur fumigation the requisite amounts are placed in the different parts of the vessel to be fumigated, 3 lbs. per thousand cubic feet of air space and not more than 7 lbs. in each receptacle. The sulphur dioxide is generated by burning the sulphur, tinder sticks and wood shavings saturated in Methylated spirits or Paraffin being used to set it alight. The minimum time of exposure is six hours.

Fumigation by Hydrocyanic Acid Gas : one vessel was fumigated with Hydrocyanic Acid Gas during the year. The fumigation was carried out by a London firm. "Zyklon B." being the process employed, 50 grammes per 1,000 cubic feet of air space. The vessel was exposed to the gas for a period of six hours. After opening up the vessel was thoroughly ventilated to ensure that no gas remained in any part thereof.

Methods of deratisation of premises in the vicinity of the docks and quays, etc.

This is undertaken by the shipping companies, warehousemen and occupiers of the premises at the request of the City Sanitary Officers or Port Sanitary Officer. If necessary notices are issued under the Rats and Mice Destruction Act and served on the occupiers of the premises. Cats are kept in quite a number of the stores and warehouses, trapping and poisoned baits are also employed.

During the year the Harbour Commissioners had men engaged putting down poisoned baits in the sheds under their jurisdiction.

Rat Proofing : Wharves and Warehouses—The wharves on the County Antrim side of the port are all constructed to be as nearly rat proof as possible. The roads and floors of the sheds and warehouses are laid with granite square sets and concrete. The wharves on the County Down side are mostly constructed on piles and afford a certain amount of rat harbourage. These wharves are principally used for the discharge of coal and iron and for ship repairing. The offices in the sheds are raised above the floor and constructed so as to reduce rat harbourage to the minimum.

Action taken to extend rat proofing : The officers of the Sanitary Authority see that all stores are kept clean and in good order and where necessary the owners or occupiers are called upon to do such work as may be required to reduce the rat harbourage to a minimum. As the owners and occupiers of premises at the port are aware of the damage done to merchandise by rats every means is taken to keep them down to the minimum.

Number of Rats Destroyed during the year.

TABLE E.

(a) **On Vessels.**

[illegible]

TABLE F.

(b) In Docks, Quays, Wharves, Warehouses.

[illegible]

TABLE G.
Particulars relating to Plague "Infected" or "Suspected" Vessels arriving in 1931.

Name of Vessel.	Date of Arrival.	Whether "Suspected" or "Infected."	Method of Rat Destruction.	Number of dead Rats recovered.	Whether a Certificate of Deratisation issued.	Remarks.
..	..	..	..	..	..	..

TABLE H.
Measures of Rat Destruction on Vessels from Plague Infected Ports arriving in the port during the year 1931 and number of certificates issued in respect of such vessels.

Total number of Vessels arriving from Plague Infected Ports.	Number of such Vessels fumigated with S.O ₂ .	Number of Rats killed.	Number fumigated by H.C.n.	Number of Rats killed.	Number of Vessels on which trapping, Poisoning, &c., were employed.	Number of Rats killed.	Number of such Vessels on which measures of Rat destruction were not carried out.	Number of Fumigation Certificates issued.		Number of other Certificates.
								Deratisation.	Exemption.	
15	6	11	None.	None.	None.	None.	6	6	3	None.

TABLE I.
Measures of Rat Destruction on Vessels (other than those included in Tables G. and H.) and number of certificates issued in respect of such vessels during 1931.

Number of Vessels fumigated by S.O ₂ .	Number of dead Rats recovered.	Number of Vessels fumigated by H.C.n.	Number of dead Rats recovered.	Number of Vessels on which Trapping, Poisoning, &c. were employed.	Number of dead Rats recovered.	Number of Certificates issued on Form Port II.		Number of other Certificates.
						Deratisation.	Exemption.	
13	72	1	None.	9	141	14	28	None.

V. Hygiene of Crew's Spaces.

TABLE J.

Classification of Nuisances.

Nationality of vessels.	Number inspected during 1931.	Defects of original construction.	Structural defects through wear and tear	Dirt, Vermin, and other conditions prejudicial to health.
British ..	1,494	45	22	410
Other Nations ..	197	32	16	102

VI. Food Inspection.

5 Samples of German Salt taken for chemical analyses.
 2 „ of Lentils taken for Bacteriological examination.
 4 „ of Russian Oats „ „ „
 2 „ of Water taken „ „ „
 from vessels in port.

Seizures.

		Tons.	Cwts.	Qrs.	Lbs.
10 Crates of Dutch Lettuce ..	..	—	2	0	0
1 Box of White Filleted Fish ..	..	—	—	—	14
65 Crates of Dutch Lettuce					
30 „ „ „ „ }	..	5	11	0	2
64 „ „ „ „ }					
70 „ „ „ „ }					
25 „ „ „ „ }					
443 „ „ „ „ }					
2 Bales of Bacon ..	..	—	2	0	0
3 Barrels of Horseflesh ..	..	—	7	3	15
1 Bale of Bacon ..	..	—	2	0	0
		6	5	0	3

Magistrates' orders were obtained in all cases for the destruction of the above.

TABLE XXIX.
SANITARY REPORT FOR THE YEAR.
DISPENSARY DISTRICTS.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XV.	XVI.	TOTAL.
Houses Inspected :—																
Systematically ..	1668	4260	2457	2273	1247	2634	433	780	3014	3472	2297	1885	1597	3029	784	31830
Re-inspections ..	3028	6310	6758	4194	2977	4941	108	417	8360	6480	4675	6073	2486	6646	3231	66684
For Specific Purposes ..	1016	2144	2348	1600	1344	2100	71	61	3607	2639	2275	1884	1163	2115	1734	26101
Where Infectious Diseases occurred																
Inspections ..	57	218	297	221	83	167	28	14	139	179	302	131	148	58	77	2119
Re-inspections ..	61	469	338	146	87	142	33	4	117	134	178	74	115	28	54	1980
Under the Tuberculosis (Prevention) Act																
Inspections ..	29	52	66	53	16	34	1	6	44	41	55	34	25	29	24	509
Re-inspections ..	3	2	5	1	2	..	..	..	2	3	3	5	3	..	1	30
Factory and Workshops Acts :—																
Factories ..																
Inspections ..	145	77	14	33	11	66	..	..	37	2	28	54	39	123	39	668
Nuisances ..	35	26	5	14	4	14	..	..	12	1	5	10	17	26	6	175
Workshops ..																
Inspections ..	588	315	237	109	110	143	3	3	43	65	181	177	153	295	84	2506
Nuisances ..	136	48	20	23	23	19	..	..	7	3	19	21	35	60	19	433
Workplaces ..																
Inspections ..	62	9	12	8	4	32	..	..	1	6	2	9	12	29	3	189
Nuisances ..	22	2	..	1	..	11	..	..	..	..	..	2	3	10	1	52
Outworkers' Premises ..																
Inspections ..	6	170	204	878	52	594	..	..	93	48	854	668	152	157	671	4547
Nuisances ..	1	16	31	117	7	86	..	..	16	4	115	80	21	12	89	595
Bakehouses ..																
Inspections ..	48	128	103	57	40	85	..	..	33	31	78	71	123	81	36	914
Nuisances ..	15	31	35	15	7	36	..	..	8	8	28	19	37	22	11	272

SANITARY REPORT (Continued).

DISPENSARY DISTRICTS.															
I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XV.	XVI.	TOTAL
Shops Inspected by F.S.S.O. :—															
Confectionery	282	590	441	177	294	107	45	34	198	346	252	355	292	230	3675
Ice Cream	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8
Inspections	..	8	..	..	..	..	..	..	..	..	..	..	..	..	..
Vegetable and Fruit	..	1	..	..	3	..	..	..	..	..	..	..	..	..	4
Inspections	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grocery	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inspections	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Others	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inspections	2	1	1	..	..	..	..	1	3	..	1	..	..	..	9
Schools :—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inspections	146	261	322	148	151	161	30	32	134	120	191	96	171	78	2141
Common Lodging Houses :—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inspections	861	266	4	46	345	19	..	..	..	..	..	..	312	104	1957
Inspections—Day	4	2	..	..	..	..	..	..	..	..	..	..	..	..	6
Night	116	37	..	2	23	..	..	..	..	..	..	..	13	8	199
Breaches of Bye-Laws	..	..	..	..	15	..	..	..	..	..	..	..	11	2	58
Nuisances	24	6	..	..	..	..	..	..	..	..	..	..	..	..	..
Under the Dairies, Cowsheds and Milkshops															
Order ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cowsheds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inspections	..	13	8	64	..	24	10	79	157	8	41	31	15	..	492
Milkshops	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inspections	227	774	468	297	167	412	6	23	294	251	379	349	388	256	4509
Under the Bye-Laws for the Regulation of Offensive Trades :—															
Inspections	15	..	2	44	..	241	..	..	..	..	..	..	113	167	582
Tipping Grounds :—															
Inspections	48	41	3	41	..	88	41	45	143	98	142	..	..	..	843
Black Smoke :—															
Observations made	..	65	41	35	50	41	..	8	62	62	39	19	29	25	509
Graveyards :—															
Inspections	..	47	3	45	..	87	10	..	8	10	..	10	..	..	227
Marine Stores :—															
Inspections	65	88	94	..	56	..	..	..	..	..	..	..	122	40	468
Public Urinals :—															
Inspections	760	133	182	226	200	415	40	189	340	146	48	49	118	239	3107

SANITARY REPORT (continued).

DISPENSARY DISTRICTS.																
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XV.	XVI.	TOTAL.
Amusement Halls :—																
Inspections	450	177	50	132	150	..	..	..	..	..	50	32	..	110	51	1202
Rivers :—	..	17	..	1	10	..	19	10	30	35	10	..	8	17	..	157
Inspections	..	6	8	2	..	5	..	..	..	..	9	..	8	..	6	44
Requests	..	4	6	2	..	4	..	..	..	..	2	..	2	..	4	24
Defective	..	5	..	..	1	..	..	..	1	1	1	1	1	..	1	12
New Work	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Defective	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhoid Fever	4	5	1	3	..	5	14	..	1	2	1	..	3	1	..	40
Defective	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	2
Diphtheria	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1
Defective	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Continued Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Defective	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Schools	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Defective	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Others	9	47	37	4	8	12	1	..	9	12	16	15	13	4	19	206
Defective	4	17	23	3	4	12	..	..	4	6	10	7	4	2	9	106
Total No. of Tests	13	63	46	9	9	23	15	..	11	15	27	16	25	5	26	303
Defects	4	21	29	5	4	17	3	..	4	6	12	7	6	2	13	133

SANITARY REPORT (continued).

DISPENSARY DISTRICTS.

A.—Discovered.		B.—Complained of.		I.		II.		III.		IV.		V.		VI.		VII.		VIII.		IX.		X.		XI.		XII.		XIII.		XV.		XVI.		TOTAL.			
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
Nuisances Discovered and Complained of :—																																					
Drains, Traps, &c., Foul or Defective	89	68	251	99	142	121	189	105	77	63	426	107	3	2	8	10	197	63	100	49	124	86	124	84	90	49	211	56	168	50	2299	1012					
Tiling, Paving or Flooring Defective	143	60	442	119	403	192	266	171	206	73	438	105	9	8	49	6	700	120	557	161	505	175	616	138	210	45	507	124	390	137	5451	1634					
No Water Closet Accommodation	3	..	1	1	..	1	4	1	..	..	..	3	1	..	1	..	..	2	2	..	..	12	1	3	..	..	3	2	..	16	27	..	..				
Water Closets Foul or Defective	104	51	287	128	253	170	184	127	126	44	170	94	6	5	18	8	373	97	279	105	238	127	316	104	119	31	377	72	190	70	3040	1233					
No Ashpit Accommodation	3	2	7	6	5	6	27	10	3	..	31	7	1	2	..	..	14	3	12	9	18	10	16	8	11	6	13	6	3	1	163	76					
Asphalt Defective Dilapidated or Unsuitable	34	36	110	30	62	33	78	32	62	15	111	18	4	4	16	..	156	13	248	12	60	37	227	21	78	13	111	13	68	18	1425	295					
Sink Waste Pipes Defective, or want of	11	5	51	12	15	12	13	18	6	2	15	8	1	..	1	..	44	14	25	11	47	22	47	10	22	7	39	4	23	3	360	126					
Soil and Ventilation Pipes Defective	2	2	7	1	3	2	1	..	..	..	4	1	1	..	..	2	2	2	..	..	1	..	..	1	1	1	2	1	1	1	25	11	..	..			
Roof or Spouting Defective or want of	241	75	929	227	689	304	309	129	448	126	485	112	10	1	37	12	1044	168	709	165	466	212	453	154	219	50	473	135	335	161	6847	2031					
Premises Dirty	62	10	122	20	43	27	3	10	15	12	5	10	2	4	..	1	8	13	12	14	3	11	2	15	4	2	22	12	9	7	312	168					
House or Premises Damp	49	39	160	153	138	247	172	148	102	94	281	80	3	3	7	12	212	103	127	187	248	167	367	160	138	46	347	116	238	149	2589	1704					
General Dilapidation	..	..	..	..	2	..	..	..	..	2	1	2	..	1	..	..	..	..	4	13	4	8	1	2	..	..	..	3	4	1	..	7	17	..	..		
Insufficient Light or Ventilation	1	1	4	9	16	9	2	4	8	3	1	10	..	..	..	..	6	4	13	4	4	8	1	..	..	..	3	8	5	5	6	69	66	..	..		
Offensive Smells	1	22	2	19	1	36	11	21	3	8	9	21	..	2	..	2	4	12	18	6	7	31	4	11	10	8	15	16	2	15	87	230	..	..			
Fowl or Animals Kept	2	6	3	8	..	8	3	9	1	4	3	9	..	..	..	..	1	4	1	2	..	8	..	2	1	8	..	1	4	4	19	73	..	..			
Accumulation of Manure or other Offensive Matter	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
No Domestic Water Supply, or Improper	25	7	35	23	52	30	27	21	18	9	36	32	1	1	..	3	44	18	28	9	32	28	28	8	22	15	36	25	26	8	410	237	..	..			
Black Smoke	1	5	..	5	1	4	4	5	..	..	2	3	..	1	..	..	15	7	8	..	5	19	..	6	12	3	6	5	..	3	54	66	..	..			
Passages Dirty	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..			
Schools Dirty	3	4	17	10	16	28	7	18	2	8	6	16	..	..	1	1	6	9	..	6	3	23	18	2	28	11	11	3	6	4	124	143	..	..			
" Overcrowded	..	1	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1	..	..	7	..	..			
Houses	58	..	60	..	111	..	57	..	62	..	14	..	20	..	17	..	91	..	47	..	57	..	26	1	18	..	126	1	27	..	791	2	..	..			
Offensive Privies	3	10	4	17	..	8	..	3	..	5	..	7	..	2	..	1	..	5	1	5	..	3	..	1	..	..	..	2	9	..	8	10	84	..	..		
Miscellaneous	183	128	476	259	417	364	251	253	267	136	432	178	9	7	38	18	1007	243	440	209	459	263	631	214	233	80	733	206	416	242	5892	2800	..	..			

SANITARY REPORT (continued).

DISPENSARY DISTRICT.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	X.	XI.	XII.	XIII.	XV.	XVI.	TOTAL.
House Drains Cleaned	136	320	231	254	123	518	2	12	223	97	181	189	133	220	200	2839
" " Repaired	3	14	24	8	3	43	1	..	12	16	9	22	9	10	9	183
Length in feet of Pipe Drain Laid in Providing Houses with New Drains	108	198	352	22	79	432	..	..	23	76	24	12	224	169	32	1742
Gully and Disconnecting Traps put on House Drains	4	5	11	1	..	9	..	..	2	2	..	..	9	..	2	45
Houses had the Tiling, Paving, or Flooring Repaired	160	532	565	378	249	449	8	58	789	677	610	688	213	645	477	6498
Water Closets Erected	..	1	..	..	1	..	..	..	..	..	..	..	..	2	..	4
" " Repaired	142	373	392	269	157	206	11	22	451	361	352	392	123	425	256	3932
Ashbins Provided	19	67	65	113	83	124	4	16	170	220	85	184	96	132	73	1451
Houses Provided with New Sinks	..	13	4	..	..	..	..	..	..	1	2	..	1	..	..	21
Houses Provided with New Soil and Ventilation Pipes	..	..	2	..	..	1	..	..	..	..	..	..	1	12	1	17
Houses have had the Roofs Repaired	142	664	722	208	339	335	2	38	725	521	402	471	156	400	445	5570
Houses have had the Spouting Repaired	146	527	388	219	249	282	8	21	506	347	392	309	136	364	303	4197
Houses have been Cleansed or Whitewashed	11	8	4	1	6	10	..	..	4	11	9	13	4	26	7	114
Houses have had the Yard Walls Limewashed	28	97	32	..	8	1	..	..	..	1	..	..	..	..	..	167
Houses (that were overcrowded) had the Number of Innates Reduced	7	3	4	..	1	1	..	..	1	1	1	3	..	1	4	27
Houses Closed	..	..	1	..	..	..	..	..	..	2	..	..	..	..	..	3
Houses have had Minor Repairs Effected	333	946	958	412	464	520	17	67	1331	801	726	819	300	963	722	9379
Miscellaneous Nuisances Abated	45	78	115	172	43	168	1	20	95	183	164	245	193	162	125	1809

TABLE XXX.

INQUEST CASES.

Cause of Death.	Under 1 year.		1 and under 5 years.		5 and under 15 years.		15 and under 25 years.		25 and under 45 years.		45 and under 65 years.		65 and upwards.		Total.		Grand Total.
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Accidents—Motor	..	..	..	..	..	..	..	..	10	1	4	2	6	4	35	10	45
" Other.	..	..	4	..	5	3	6	2	6	2	18	1	2	2	31	5	36
Drowning ..	..	..	..	..	..	..	15	..	2	..	2	..	..	..	5	..	5
Gunshot Wounds	..	..	..	..	..	..	1	..	2	..	..	..	..	..	2	1	3
Gas Poisoning	..	..	..	..	..	..	..	..	1	..	..	..	3	1	4	1	5
Heart Failure	..	..	..	..	..	..	..	..	1	..	2	4	6	3	9	7	16
Inattention at Birth	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	3	5
Natural Causes	..	..	..	..	..	..	1	1	2	2	3	1	1	1	8	6	14
Overlying	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3
Poisoning (Food)	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1
Septicaemia	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Shock due to Burns, etc.	..	..	7	4	1	1	1	1	..	2	2	2	..	2	13	12	25
Stillborn	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2
Suffocation	..	..	..	..	..	..	..	..	..	..	1	..	..	..	3	2	5
Suicide ..	..	..	..	..	..	..	3	2	4	2	12	..	5	2	24	4	28
															140	54	194

CITY AND COUNTY BOROUGH OF BELFAST.

TUBERCULOSIS DEPARTMENT.

THE YEAR'S WORK,
BEING
THE REPORT
OF THE
Chief Tuberculosis Officer
FOR THE
Year Ended 31st December, 1931.

LORD MAYOR :

The Right Honourable SIR CRAWFORD McCULLAGH, D.L., J.P.

MEMBERS OF THE TUBERCULOSIS COMMITTEE (1931).

Councillor W. A. COCHRANE, J.P., Chairman.

Councillor W. P. NOBLE, Deputy Chairman.

Alderman W. H. ALEXANDER.
Alderman ROBERT PIERCE.
Alderman CAPTAIN W. REID, J.P.
Alderman J. D. WILLAMSON, M.D., J.P.
Councillor J. BOYLE.
Councillor MRS. COLEMAN.
Councillor Lt. Com. R. M. HARCOURT.
Councillor JAS. HOLLAND.
Councillor M. HOPKINS, J.P.

Councillor S. KYLE.
Councillor DR. H. P. LOWE.
Councillor M. McKIBBIN.
Councillor CLARKE SCOTT
(Co-opted Members)
MR. KYLE M. ALEXANDER, F.L.A.A.
MISS E. McCOMB.
MR. JAMES PARKHILL, J.P.,

MEDICAL OFFICERS OF THE DEPARTMENT.

Tuberculosis Institutes.

Chief Tuberculosis Officer	..	DR. ANDREW TRIMBLE.
Assistant Medical Officer	..	DR. JAMES SHAW.
Assistant Medical Officer	..	DR. T. R. V. IRWIN.
Assistant Medical Officer	..	DR. HERBERT McMASTER.
Assistant Medical Officer	..	DR. E. P. DEWAR.

Municipal Sanatorium, Whiteabbey.

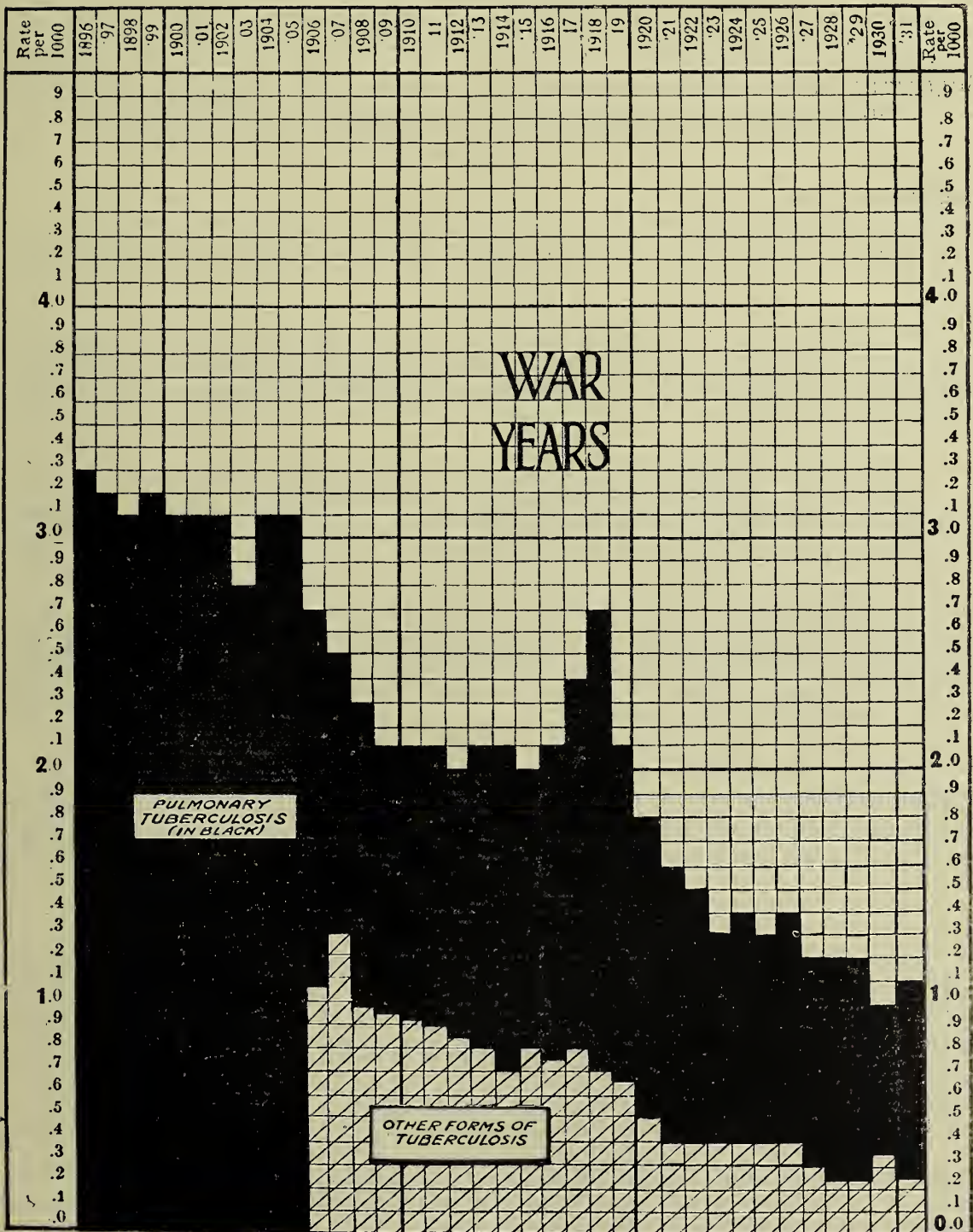
Resident Medical Superintendent		DR. PERCY WALKER.
Assistant Medical Officers	..	DR. D. K. WATTERSON.
		DR. A. E. LAVELLE.
Visiting Medical Officer	..	DR. JOHN RANKIN.

Municipal Hospital for Tuberculous Children, Graymount.

Visiting Surgeon	-	MR. H. P. MALCOLM.
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CHART 1.

SHOWING THE COURSE OF THE DEATH RATE FROM PULMONARY TUBERCULOSIS
IN BELFAST FROM 1896 ONWARD, AND FROM THE NON-PULMONARY FORMS OF
TUBERCULOSIS, FROM 1906 ONWARD.



REPORT OF THE CHIEF TUBERCULOSIS OFFICER

ON THE WORK OF

THE TUBERCULOSIS DEPARTMENT

For the Year ended 31st December, 1931.

SUBMITTED TO THE MEDICAL SUPERINTENDENT OFFICER OF HEALTH, THROUGH
THE CHAIRMAN AND MEMBERS OF THE TUBERCULOSIS COMMITTEE.

Ladies and Gentlemen,

Herewith I submit my Annual Report for the year ended 31st December, 1931.

My first duty is to thank the Tuberculosis Committee for the continued interest and support which they have given in carrying through the work of the Department; and the Medical, Nursing and Clerical Staffs for their loyal assistance throughout the year.

I wish also to acknowledge the courtesy and sympathetic consideration which Dr. C. S. Thomson, Medical Superintendent Officer of Health, has at all times extended to me, and the personal interest which he takes in the Scheme of the Corporation for the Prevention and Treatment of Tuberculosis.

The Department owes a debt to the Belfast Council of Social Welfare, and to their capable Secretary, Miss McCrea, for valuable assistance extended to patients in necessitous circumstances, on many occasions during the year. The British Legion have also assisted materially in relieving distress amongst discharged service men and their families.

To the Belfast Poor Law Guardians, and their efficient and courteous Staff I tender my very sincere thanks for their unfailing help, both in relieving distress and in receiving for urgent treatment patients whom it was impossible to admit at once to the Corporation's Institutions.

CALCULATION OF RATES.

Throughout this Report, the various rates are calculated on the census figures of 1926, as the Registrar General does not now issue "estimated" figures for each succeeding year. The actual population figures for Belfast, on which the rates in this Report are based are, therefore, 195,539 males and 218,612 females.

NEW EXAMINATIONS.

Table 1.—Shows the number of persons examined for the first time, in each of the years indicated, without regard to sex or diagnosis.

Year ended				Number of Examinations.
31st December, 1928	..	..	..	1816
31st December, 1929	..	..	..	1805
31st December, 1930	..	..	..	1638
31st December, 1931	..	..	..	1894

Table 2.—Shows the result of examination of new patients examined during the years indicated.

Year ended	Tuberculous	Suspect	Non-Tuberculous	Total
31st December, 1928 ..	1100	117	745	1962
31st December, 1929 ..	1032	117	770	1919
31st December, 1930 ..	881	120	724	1725
31st December, 1931 ..	1065	172	744	1981*
Percentages for year ended 31st December, 1931 ..	54%	9%	37%	100%

*Includes 87 transfers from patients formerly only suspect, to tuberculous or non-tuberculous.

The figures set out above show an increase of 256 in the numbers found to be suffering from tuberculosis, as compared with the year 1930.

CONTACTS.

Table 3.—Shows the number and result of examination of Contacts set out as Tuberculous, "Suspect," and Non-Tuberculous.

	Tuberculous	Suspect	Non-Tuberculous	Total
No. ..	134	31	264	429
Per Cent. ..	31%	7%	62%	100%

With reference to the percentage of contacts (all ages) found to be tuberculous, it may be well to state that almost all the contacts examined had been previously noticed to be ailing, either by the parent, or by the visiting nurse.

SPECIFIC FORMS OF TUBERCULOSIS.

Table 4.—Shows the form of tuberculosis from which each tuberculous patient was found to be suffering, and the sex of the patient so suffering, including old patients formerly "suspect," whose diagnosis was made definite during the year.

Year ended	Pulmonary		Glandular		Osseous		Abdominal		Other Forms		Total		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
31st Dec., 1928 ..	351	401	119	103	34	21	25	20	13	13	542	558	1100
31st Dec., 1929 ..	344	390	79	46	34	37	28	28	26	20	511	521	1032
31st Dec., 1930 ..	270	332	61	52	29	33	29	15	32	28	421	460	881
31st Dec., 1931 ..	206	389	90	72	35	24	23	39	55	32	509	556	1065

A Study of the relative numbers of women and men found to be tuberculous at their first examination reveals a diminution in the relative numbers of women, during the 18 years of our work. Thus for every 100 men found to be suffering from tuberculosis in the year 1916 we had 135 women similarly affected; while for every 100 men diagnosed as suffering from tuberculosis during 1931 we had only 99 tuberculous women.

When we come to consider deaths amongst males and females we shall see that the same change-over is taking place, though to a lesser extent, than in Great Britain and America.

RE-ATTENDANCES OF OLD PATIENTS.

The re-attendances of old patients at the Institutes for examination and treatment numbered 20,716 as compared with 27,897 in the year previous. 149 patients unable to attend the Institutes were re-examined in their own homes, and 72 patients were examined at the Belfast Infirmary by the Medical Staff of the Institutes.

PATIENTS ON THE VARIOUS FORMS OF TREATMENT.

Table 5.—Shows the number of patients on the different forms of treatment at the 31st of December, 1931.

Institute (Dispensary)	Domiciliary		Institutional		Open-Air School (Day Section)	Total
	Ins.	Non- Ins.	Sana- torium.	Graymount Hospital		
1930	2100	993	242	57	119	5501

These figures include 2,100 insured persons on panel treatment whose supervision devolves upon the Tuberculosis Department in accordance with Par. 47 (b) of the Medical Benefit Regulations which reads:—

A practitioner is required—

“(b) To prepare and send to the Tuberculosis Officer in regard to each
 “ patient who is recommended by the Tuberculosis Officer to receive
 “ treatment for tuberculosis from the practitioner reports on forms
 “ to be provided by the Tuberculosis Officer and approved by the
 “ Ministry for the purpose, at such reasonable intervals, not exceeding
 “ three months, during the continuance of such treatment as may be
 “ arranged between the practitioner and the Tuberculosis Officer.”

The importance of the number of patients on treatment consists not only in the fact that so many patients are under supervision, but that every patient treated is an object lesson to the remainder of the family and the community—serving as a starting point for a spread of the knowledge of the laws of health and of the means that may be utilised for the prevention and treatment of the disease.

RE-EXAMINATION OF PATIENTS ON DOMICILIARY AND
PANEL TREATMENT.

In addition to the quarterly reports of Domiciliary Doctors regarding tuberculous patients under their care, a special re-examination of patients on Domiciliary and Panel treatment is made at regular intervals by the medical staff of these Institutes. During the year 1931, 1,030 such special re-examinations were made, with the results set out hereunder:—

Table 6.—Shows the Condition of Domiciliary and Panel patients re-examined during the year.

Year	Disease Apparently Cured	Disease Quiescent.	Greatly Improved.	Improved	In Statu Quo.	Worse	Total
1929	51	75	64	156	483	92	921
1930	37	92	82	117	483	74	885
1931	52	69	79	177	541	112	1030

If these results can be accomplished in face of all the disabilities connected with overcrowding, inadequate housing and unemployment, much more might be accomplished if social conditions were what they should be ; if the importance of attention to early symptoms were realised ; and if the patients were more amenable to advice and faithfully carried out the instructions of the doctor in regard to rest, especially in the early stages of the disease.

TABLE 7.

Occupations of Tuberculous Patients at their First Examination (arranged according to the Classification—Slightly Modified—of the Registrar-General).

I.—GENERAL OR LOCAL GOVERNMENT OF THE COUNTRY.

Male.		Female./
Civil Servant	.. 1	Nil

II.—PERSONS ENGAGED IN THE DEFENCE OF THE COUNTRY.

Sailor (Discharged)	.. 3	Nil.
Soldier (Discharged)	.. 32	

III.—PERSONS ENGAGED IN PROFESSIONAL OCCUPATIONS (AND THEIR SUB-ORDINATES).

Statue Maker	.. 1	Nurse	.. 1
Teacher	.. 1		
Wireless Operator	.. 1		

IV.—PERSONS ENGAGED IN DOMESTIC OR PERSONAL OFFICES OR SERVICES.

Gardener	.. 1	Charwoman	.. 3
Hairdresser	.. 3	General Servant	.. 15
Hospital Attendant	.. 1	Ward Mistress	.. 1
Hotel Attendant	.. 1		
Page Boy	.. 1		

V.—PERSONS ENGAGED IN COMMERCIAL OCCUPATIONS.

Accounts Collector	.. 1	Clerk	.. 6
Agent	.. 2	Shop Girl	.. 11
Clerk	.. 13		
Shop Assistant	.. 4		
Traveller	.. 2		
Time Keeper	.. 1		

VI.—CONVEYANCE OF MEN, GOODS, MESSAGES.

Bus Conductor	.. 1	Messenger	.. 1
Carter	.. 5		
Coal Man	.. 1		
Messenger	.. 5		
Motor Man	.. 3		
Newsboy	.. 1		
Railway Worker	.. 2		
Tram Driver	.. 1		
Van Boy	.. 1		

VII.—PERSONS ENGAGED IN AGRICULTURE.

Nil.

Nil.

VIII.—PERSONS ENGAGED ABOUT ANIMALS.

Blacksmith	.. 2	Nil.
Jockey	.. 1	

IX.—PERSONS WORKING OR DEALING IN PRINTING, BOOKS, ETC.

Male.			Female.		
Printer	..	4	Fancy Box Maker	..	2
			Printer	..	1

X.—PERSONS ENGAGED WITH MACHINES AND IMPLEMENTS.

Bogie Boy	..	1	Aero Grafter	..	1
Cager	..	1			
Catch Boy	..	2			
Crane Driver	..	1			
Driller	..	4			
Engineer	..	15			
Fireman	..	2			
Heater Boy	..	2			
Heckle Setter	..	1			
Iron Moulder	..	2			
Iron Turner	..	4			
Machine Boy	..	1			
Oiler	..	1			
Plater	..	3			
Plumber	..	3			
Red Leader	..	2			
Riveter	..	3			
Sheet Metal Worker	..	2			
Steel Worker	..	1			

XI.—PERSONS WORKING AT HOUSES, FURNITURE AND DECORATIONS.

Bricklayer	..	2	Nil.
Cabinet Maker	..	1	
Carpenter	..	10	
Painter and Glazier	..	4	
Sawyer	..	1	
Slater's Helper	..	1	
Stone Mason	..	1	
Upholsterer	..	1	

XII.—CARRIAGES AND HARNESS.

Coach Builder	..	3	Nil.
Coach Trimmer	..	1	

XIII.—SHIPS AND BOATS.

(See also under X.—“Machines and Implements.”)			
Nil.			Nil.

XIV.—CHEMICALS AND COMPOUNDS.

Nil.			Nil.
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XV.—TOBACCO AND PIPES.

Tobacco Worker	..	2	Tobacco Worker.	..	11
----------------	----	---	-----------------	----	----

XVI.—FOOD AND LODGINGS.

Barman	..	4	Cook	..	1
Bottle Washer	..	1	Waitress	..	1
Bread Server	..	1			
Butcher	..	2			
Milk Server	..	1			
Waiter	..	2			

XVII.—TEXTILE FABRICS.

Male.

Linen Finisher	..	1
Machinist	..	2
Presser	..	1
Rougher	..	1
Rove Drawer	..	1
Warehouse Worker	..	3
Weaver	..	1
Yarn Hawker	..	1
Yarn Bundler	..	1

Female.

Back Minder	..	1
Bobbin Sorter	..	1
Box Folder	..	5
Carder	..	2
Doffer	..	14
Drawer	..	5
Examiner	..	2
Flax Drawer	..	1
Laundress	..	7
Layer	..	4
Machinist	..	2
Netter	..	2
Ornamentor	..	3
Packer	..	6
Preparer (Textile)	..	1
Reeler	..	8
Rover	..	2
Spinner	..	29
Spreader	..	1
Stitcher	..	27
Wareroom Worker	..	5
Warper	..	2
Weaver	..	20
Winder	..	12
Factory Worker or Mill-worker (not otherwise defined)	..	6

XVIII.—DRESS, ETC.

Boot and Shoe Maker	..	3	Dressmaker	..	1
Cutter	..	3	Tailoress	..	7
Tailor	..	2			

XIX., XX., and XXI.—ANIMAL, VEGETABLE, AND MINERAL SUBSTANCES.

Nil.

Nil.

XXII.—GENERAL OR UNSPECIFIED COMMODITIES.

Dealer	..	3	Bag Mender	..	2
Labourer	..	75	Dealer	..	3
Lamplighter	..	1	Housewife	..	94

XXIII.—REFUSE MATTERS.

Nil.

Nil.

XXIV.—PERSONS NOT FOLLOWING PRODUCTIVE OCCUPATIONS.

School Boy	..	183	School Girl	..	157
Male Child under School Age	..	45	Female Child under School Age	..	38
No occupation	..	23	No occupation	..	30
Total Males	..	541	Total Females	..	556

N.B.— 32 Discharged Sailors and Soldiers are recorded also under their ordinary calling.

THE QUESTION OF INFECTION.

Table 8.—Shows the possibility of infection by living, or having lived, with other tuberculous persons.

Year ended	Number of Patients who are living, or have lived with one or more definitely tuberculous persons.							Total
	With 1	With 2	With 3	With 4	With 5	With 6	With over 6	
31st Dec., 1929 ..	219	82	24	12	0	0	1	338
31st Dec., 1930 ..	167	45	21	5	3	2	0	243
31st Dec., 1931 ..	220	81	19	10	0	0	1	331

The possibility of infection is strongly suggested by a study of the foregoing Table. Thus, of 1,065 patients examined for the first time during the year and found to be suffering from tuberculosis, 31 per cent. had a definite opportunity of infection through living in contact with other tuberculous patients.

Here I would again emphasise the fact that the primary source of infection in tuberculosis is the tubercle bacillus in the sputum or other discharge of the tuberculous patient. If this infected sputum or discharge is not carefully disposed of, or if proper care is not taken to cleanse thoroughly the knives, forks, plates, spoons, etc., used by the tuberculous patient, the results are certain to be disastrous—especially to the children of the family.

VISITING THE PATIENTS IN THEIR HOMES.

During the year our Staff of Visiting Nurses paid 31,704 visits to patients in their own homes.

As demonstrating the crowded conditions in which some of the patients live, the following Tables will be of interest:—

HOME CONDITIONS.

Table 9.—Shows the number of rooms in domiciles occupied by tuberculous patients at their first examination

Year Ended	Rooms in Domicile	One	Two	Three	Four	Five	Six	Seven	Over Seven	Total
31st Dec., 1929	Patients {	38	69	144	419	60	51	12	7	800
31st Dec., 1930		29	40	97	389	59	49	8	1	672
31st Dec., 1931		21	54	105	536	80	48	15	1	860

HOME CONDITIONS AT THE FIRST VISIT OF THE NURSE.

Table 10.—Shows the conditions of the homes of the new patients examined during the year, on the first visit of the Nurse.

Year Ended	Excep. Good	Very Good	Good	Average	Bad	Very Bad	Excep. Bad	Total
31st Dec., 1929	6	17	107	493	106	50	21	800
31st Dec., 1930	7	25	121	413	76	25	5	672
31st Dec., 1931	3	16	123	579	94	37	8	860

The decision as to which of the above headings the condition of the home shall be placed under, has been arrived at after careful consideration of the number of inmates in the house, its cleanliness, ventilation, etc.

PERSONS IN THE SAME BEDROOM AS THE PATIENT.

Table 11.—Shows the number of tuberculous patients sleeping in the **same bedroom** with other persons, as ascertained at the first visit of the nurse.

Year Ended	Alone	With 1 other	With 2 others	With 3 others	With 4 others	With 5 others	With 6 others	With 7 others or over	Total
31st Dec., 1929	165	264	185	110	42	15	8	11	800
31st Dec., 1930	141	251	150	85	28	13	2	2	672
31st Dec., 1931	153	337	202	88	46	22	7	5	860

As indicating the effect of the economic depression on social surroundings, it may be mentioned that in one case the patient was sleeping in a room with eleven others, and in another case with eight others.

PERSONS IN THE SAME BED WITH THE PATIENT.

Table 12.—Shows the number of tuberculous patients sleeping in the **same bed** with the undermentioned numbers of other persons, as ascertained at the first visit of the nurse.

Year Ended	Alone	With 1 other	With 2 others	With 3 others	With 4 others	With 5 others or over	Total
31st Dec., 1929	228	342	161	54	13	2	800
31st Dec., 1930	198	305	129	33	7	0	672
31st Dec., 1931	231	410	169	36	9	5	860

SPITTING.

The spread of infection within the house is bad enough, and sometimes inevitable in over-crowded conditions, but there is no excuse for the offensive habit of spitting in the streets and public conveyances, where the sputum is liable to be dried and carried into the air or borne on the feet of the passer-by into the homes of the people.

From personal observation, I feel apprehensive that this ugly and offensive habit is on the increase. Every person who values his own health and that of the community should regard it as his duty to draw the attention of Guards, Bus Conductors, Tram Conductors and other responsible public servants to any person seen spitting in a public conveyance, and as a matter of example should abstain from spitting in the street himself.

It should be recognised that spitting is a habit which offends against the most elementary standard of cleanliness, decency and good manners.

WHERE THE PATIENTS LIVE.

Table 13.—Indicates by wards, arranged in alphabetical order, the localities in which new tuberculous patients lived, at the time of their first examination.

Clifton	65	St. George's	67
Court	50	Shankill	79
Cromac	42	Smithfield	38
Dock	51	Victoria	130
Duncairn	51	Windsor	33
Falls	90	Woodvale	60
Ormeau	103	Outside City Boundary	4
Pottinger	129		
St. Anne's	73	Total	1,065

With this Table showing the localities in which the **patients live**, or were living at their first examination, it is interesting to compare the accompanying Chart, which sets out graphically the wards in which **deaths** from pulmonary tuberculosis took place during the year 1931.

CHART 2.

SHOWS THE DEATHS FROM PULMONARY TUBERCULOSIS AS A RATE PER 10,000 INHABITANTS, LIVING IN THE WARDS IN WHICH THE DEATH OCCURRED (1931).

WARDS	DEATHS OF PATIENTS PER 10,000 INHABITANTS IN EACH WARD
1. ST. ANNE'S	15
2. COURT	14
3. FALLS	14
4. VICTORIA	13
5. ST. GEORGE'S	12
6. ORMEAU	11
7. POTTINGER	11
8. DOCK	11
9. WOODVALE	10
10. CLIFTON	9
11. WINDSOR	8
12. SHANKILL	8
13. DUNCAIRN	7
14. SMITHFIELD	7
15. CROMAC	7

X-RAY DEPARTMENT.

Before the Belfast Insurance Committee was dissolved in September, 1930, the Committee, with the approval of the Ministry of Labour generously set aside a sum of £1,000 for the provision of additional laboratory apparatus, and a modern X-ray installation to replace the old one which the Committee had also provided in 1916. By the beginning of 1931, the new laboratory equipment was provided which now makes the laboratory one of the best equipped of its kind in the Kingdom. In October 1931, the installation of a new Victor X-ray apparatus was completed and has since given entire satisfaction. The new installation has many points of excellence over the old one, but particularly by reason of its greater mechanical precision and better film results, and also in its accurate timing apparatus, and the ease with which the patient can be centered and the tube adjusted to varying distances from the patient.

During the year 253 X-ray photographs were taken ; 214 as a help towards diagnosis of disease in the lungs, and 39 in connection with the work at the Municipal Hospital for Tuberculous Children, Graymount.

ARTIFICIAL LIGHT DEPARTMENT.

During the year the Gas Committee through its manager Mr. J. D. Smith, generously made a gift to the Department of three Infra Red Lamps—one for the Central Institute, one for the Albertbridge Road Branch Institute, and one for Graymount Hospital. These lamps have proved of service in various painful affections such as, pleurisy, rheumatism, sprains, etc., without any risk of producing an erythema reaction.

At both Institutes the use of Ultra-Violet Rays has been further developed during the year with good results, especially amongst delicate children, and those suffering from osseous and glandular tuberculosis, lupus, etc.

Table 14.—Shows the number of Light Treatments administered during the year :—

Institute.	Treatments Given.				Total
	Carbon Arc	Mercury Vapour	Kromayer	Sollux	
Central	4514	81	31	88	4714
A.B. Road	—	5593	—	—	5593
	4514	5674	31	88	10,307

DENTAL DEPARTMENT.

This Department under the supervision of Mr. Osborne Black, continues to be increasingly patronised, and patients derive much benefit from the dental treatment provided.

In addition to the work set out in the table below, Mr. Black also attends one day weekly at the Municipal Sanatorium and one day weekly at Graymount Hospital and Open-Air School.

Table 15.—Shows the nature and amount of the dental work carried out for patients during the year.

Institute	Fillings	Scalings	Dressings	Extractions	Total Treatments
Central	187	4	182	127	500
A.B. Road	137	3	355	161	656
Graymount	101	—	172	37	310
G.O.A. School	190	—	262	24	476
Total	615	7	971	349	1942

LABORATORY WORK.

Table 16.—Shows the nature and amount of the laboratory work done during the year.

Year Ended	Examinations.			Tuberculin prepared
	Sputa	Chemical (Sputa & Urines)	Haematological. (Sedimentation & films)	
31st Dec., 1931 ..	847	877	182	39

Table 17.—Shows the result of examinations of sputa for tubercle bacilli and albumin, or albumose.

T.B. + Alb. +	T.B. + Alb. —	T.B. — Alb., —	T.B. — Alb. +
113	8	607	119

A consideration of the foregoing Table shows how rarely albumin is absent when the sputum contains tubercle bacilli, and how constant is the presence of albumin in sputum positive to T.B. In all probability the presence of albumin is due to cytolysis, and if the tubercular lesion is active, it is reasonable to expect albumin to be present in the sputum. It would seem, therefore, that the presence of albumin in sputum, negative to tubercle bacilli should be regarded as a significant suggestion for frequent examination of the sputum, in order to avoid the risk of missing the intermittent presence of tubercle bacilli.

TREATMENT OF INSURED PERSONS.

Table 18.—Shows the numbers of insured and non-insured persons examined for the first time, or whose diagnosis was made definite, during the year 1931.

Year	Insured & Exempt		Total	Per cent of Grand Total	Non-Insured		Total	Per cent. of Grand Total	Grand Total
	Male	Female			Male	Female			
1931	308	343	651	33%	602	728	1330	67%	1981

Table 19.—Shows the number of patients found on examination to be tuberculous or "suspect" requiring treatment, and number found to be non-tuberculous.

Year	Tuberculous or Suspect				Total	Per cent of Grand Total	Non- Tuberculous				Total	Per cent of Grand Total	Grand Total
	Insured		Non- Insured				Insured		Non- Insured				
	M	F	M	F			M	F	M	F			
1931	242	273	331	391	1237	62%	66	70	271	337	744	38%	1981

The grand total includes 87 "suspects" transferred in the year under review to the tuberculous or non-tuberculous class.

Table 20.—Shows the forms of tuberculosis from which new insured patients examined during the year were found to be suffering.

Year	Pulmonary		Glandular		Osseous		Abdominal		Other or General		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1931	193	213	2	4	7	4	2	3	5	3	436

The number of Insured person under supervision or treated, throughout the year was 2,332. The number on Panel treatment at the end of the year, compared with previous years, is shown in the following table.

Table 21.—Shows the number of insured persons on treatment or under medical supervision at the end of the years indicated.

Year	1924	1925	1926	1927	1928	1929	1930	1931
Persons	1732	1740	1664	1784	1817	1909	1806	2068

TREATMENT OF EX-SERVICE MEMBERS.

The number of men who served in the war, examined for the first time during the year, was 32 as compared with 36 in the year 1930.

Table 22.—Shows the number of Discharged Service members on the various forms of treatment, at the dates mentioned.

Date	Institute	Panel	Sanatorium.	Total
31st December, 1929 ..	105	159	16	280
31st December, 1930 ..	101	179	5	285
31st December, 1931 ..	28	204	6	238

MUNICIPAL SANATORIUM.

For a detailed account of the work at the Municipal Sanatorium, Whiteabbey, reference should be made to the Report of the Resident Medical Superintendent, Dr. P. S. Walker.

GRAYMOUNT HOSPITAL.

For details of the work carried on at this Institution reference should be made to the Report of the Visiting Surgeon, Mr. H. P. Malcolm.

GRAYMOUNT OPEN-AIR SCHOOL.

The Open-Air School divided into Day and Hospital Sections, under the supervision of Miss Thompson and her four assistants, continues to fulfil a most important function.

I think it well to make it plain that the children attending the open-air school (day section) are not themselves actually suffering from clinical tuberculosis, though they are living in daily association with parents or relatives suffering from the disease, and it is hoped that the good food, fresh air, mid-day rest, and general training in habits of cleanliness will go far to cut down the bridges to infection in the home, and to increase bodily resistance to the disease.

The average daily attendance at both sections of the School during the year was as under :—

Day Section	103.9
Hospital Section (exclusive of children under school age)	40.2
Total daily average at both Sections	144.1
Average on Rolls at 31/12/31	161.4

The School is so popular that the demands for admission continue to be far in excess of the accommodation available. In addition to our own requirements those of the School Medical Officer (Dr. T. S. Fulton) would easily provide pupils for several more such schools.

School years are the most important in the whole life of an individual, for during these years the foundations of health may be either strengthened, or sapped, and habits of mind and body formed which may conduce either to the happiness or the misery of the individual throughout his whole after-lifetime.

In accordance with a request from the Ministry of Home Affairs, the following particulars are set out annually :—

Hospitals provided by the Sanitary Authority or the
County Council.

Tuberculosis Hospitals.

1. Municipal Hospital for Tuberculous Children, Graymount, Belfast. (For the treatment of non-pulmonary tuberculosis in children) 58 beds
2. Municipal Sanatorium, Whiteabbey, Co. Antrim. (For all forms of tuberculosis in adults and children). 285 beds

Clinics and Treatment Centres.

1. Central Tuberculosis Institute, Durham Street, Belfast.
2. Tuberculosis Institute, 225 Albertbridge Road (Branch).
3. Open-Air School—Day Section—Graymount, Belfast 120 places

Artificial Light Clinics for Tuberculous Diseases.

1. At Central Tuberculosis Institute, Durham Street, Belfast.
2. At Tuberculosis Institute, 225 Albertbridge Road, Belfast.

TABLE 23

NEW CASES AND MORTALITY DURING 1931.

Age—Periods	New Cases		DEATHS *			
	All Forms of Tbs.		Pulmonary		Non-Pulmonary	
	M.	F.	M.	F.	M.	F.
0-4 incl.	38	28	5	7	16	17
5-9 "	127	99	1	4	7	1
10-14 "	61	72	4	9	2	3
15-19 "	57	71	14	34	8	8
20-24 "	50	72	28	49	3	5
25-34 "	70	115	56	52	8	7
35-44 "	48	47	36	30	6	4
45-54 "	40	34	28	24	2	3
55 and upwards	18	18	28	20	3	4
Totals ..	509	556	200	229	55	52

*These figures are compiled from the Returns of deaths occurring in the city submitted by District Registrars to the M.S.O.H. and are subject to correction by the Registrar General.

DEATHS AND DEATH RATES.

The number of deaths from **pulmonary** tuberculosis in 1931 was 464, as compared with 426 in 1930, and with 836 in 1914. The death rate, therefore, in 1931 was 1.1 per 1,000—a decrease of over 51 per cent. as compared with the rate in 1914.

The number of deaths from **non-pulmonary** tuberculosis in 1931 was 104, as compared with 149 in 1930, and with 290 in 1914. The death rate from non-pulmonary tuberculosis in 1931 was 0.25, as compared with 0.72 in 1914—a reduction in non-pulmonary mortality of 65 per cent. in seventeen years.

NOTIFICATION OF TUBERCULOSIS.

Of the 568 who died from all forms of tuberculosis in Belfast during the year 1931, 401 were patients who had been notified either to this Department or to the Medical Officer of Health. Of these 401, 58 died within one month of notification to us, 159 within six months, and 207 or 51 per cent. within one year. From these figures it may be inferred that the stage at which patients are first notified is often too late to admit of effective treatment. It is possible that the regulations governing the notification of non-insured persons (made under the Prevention of Tuberculosis (Ireland) Act, 1908), may leave the practitioner in doubt as to whether a particular case of tuberculosis is notifiable or not, since these Regulations specify :

“ In every district in which Part I. of the Act extends, Section 1 of the Act shall apply in the circumstances following—that is to say, in every case in which a person, not being at the time in receipt of institutional or other treatment under an approved Scheme for the treatment of tuberculosis, is suffering from tuberculosis of any form at any stage at which the sputum or other infective discharge of or from any such person, is, in the opinion of the medical practitioner attending on such person, liable to communicate the disease to other persons.”

On the other hand, the Regulations governing the notification of Insured Persons (made under the National Health Insurance Act, 1930) make it compulsory for the Panel Doctor to notify the Tuberculosis Officer “ as soon as he becomes aware or has reason to suspect that the patient is suffering from tuberculosis.” It would be much simpler, and would prevent misunderstanding if the Regulations regarding the notification of tuberculosis did not differ as between insured and non-insured, nor as between the Ministry of Labour and the Ministry of Home Affairs.

MILK.

Considering the probability that about 50 per cent. of the non-pulmonary forms of tuberculosis in Belfast are due to milk containing tubercle bacilli of the bovine type, the importance of a pure milk supply is self-evident. I believe that the use of Grade A T.T. (tuberculin tested) milk is increasing in the city of Belfast ; the only objection to its universal use is a financial one. As an indication of the increasing demand for Grade A T.T. milk in Northern Ireland, it is interesting to note that whereas for the year ended September, 1928, there were only thirteen producers and retailers in the whole of Northern Ireland, in the year ended 30th September, 1931, the number had increased to 52. The quantity of Grade A milk consumed in Northern Ireland during the year ended September, 1928 was 1,200 gallons per day, and in the year ended September, 1931, the consumption had risen to 3,800 gallons per day.

But if Grade A T.T. milk is too expensive in these days of financial depression, we should at least insist on a milk supply pasturised under Government supervision. If such a milk supply were in universal use, I have no doubt that in a few years any additional cost would be amply justified by a still sharper fall in the mortality from the non-pulmonary forms of tuberculosis.

CHART 3.
SHOWING THE INCIDENCE OF MORTALITY FROM PULMONARY TUBERCULOSIS
ON MALES AND FEMALES IN AGE-PERIODS OF FIVE YEARS, CALCULATED PER
1,000 MALES AND FEMALES LIVING IN EACH AGE-PERIOD, FOR THE YEAR ENDED
31st DECEMBER, 1931.

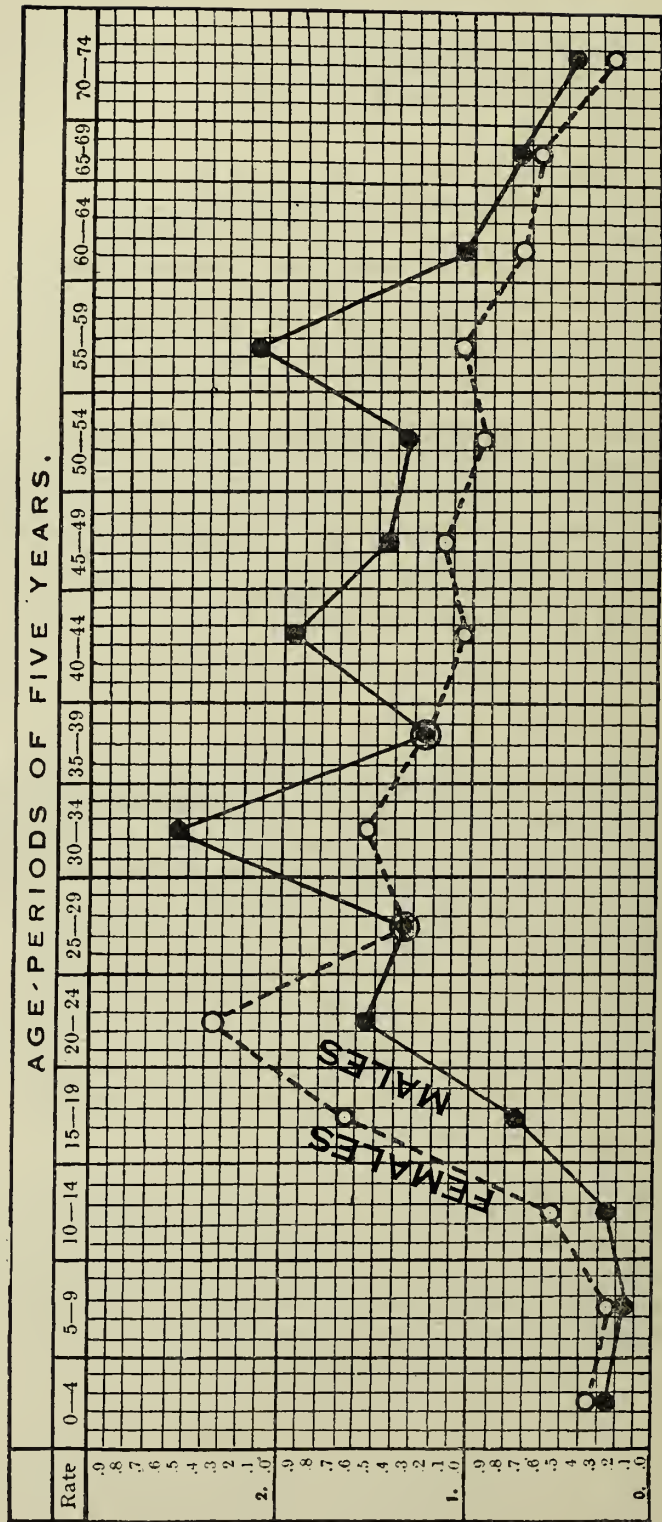
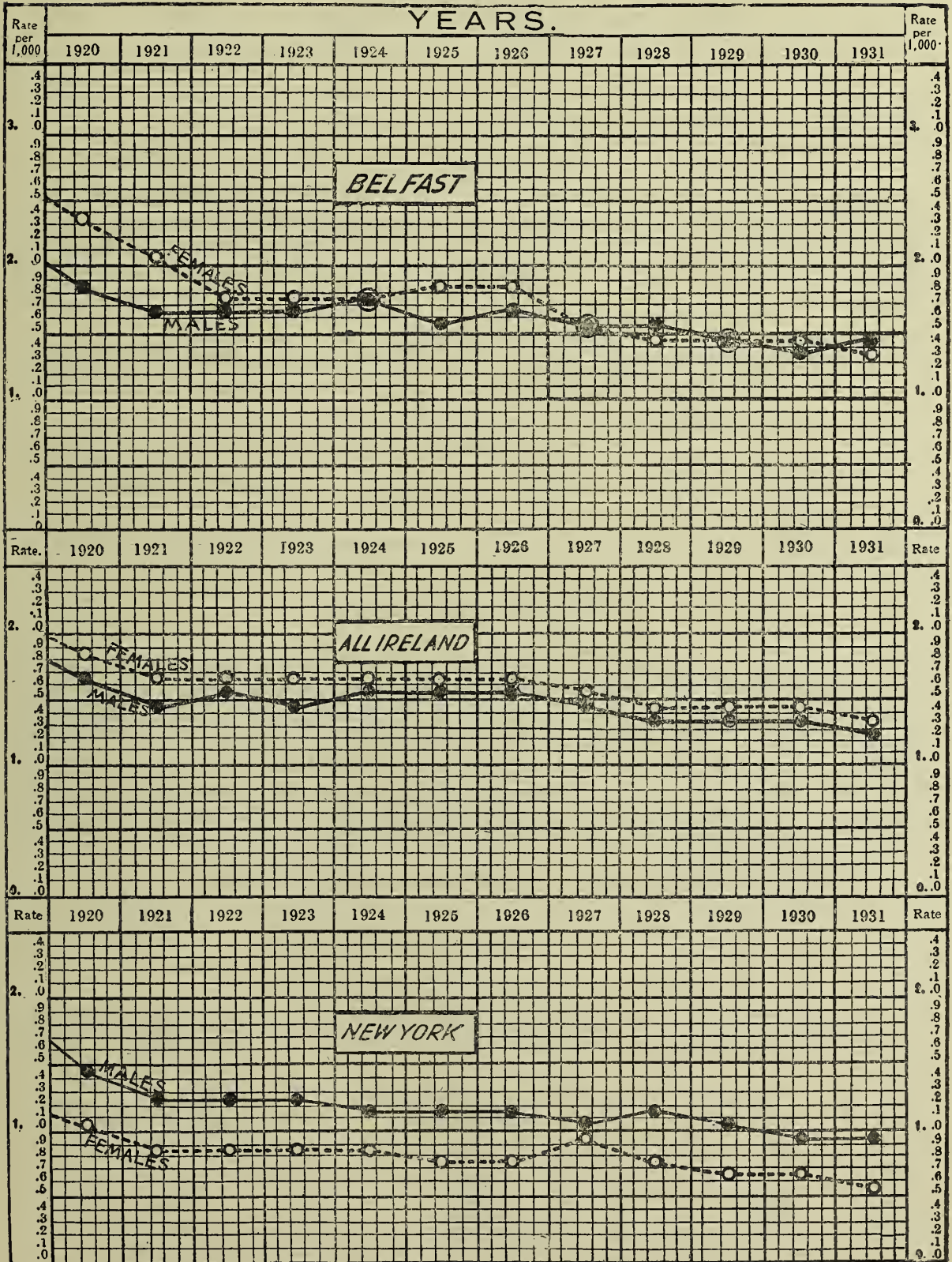


CHART 4

SHOWS THE COMPARATIVE INCIDENCE OF THE MORTALITY FROM ALL FORMS OF TUBERCULOSIS AMONGST MALES AND FEMALES IN BELFAST, IRELAND, AND NEW YORK.



PREGNANCY AND TUBERCULOSIS.

Regarding the effects of pregnancy on tuberculosis and of tuberculosis on pregnancy, I have made recent enquiry into the results of pregnancy in tuberculous mothers, and the results are set out hereunder :—

Table 24.—Shows the end results of pregnancy in tuberculous mothers :—

	Miscarried	Delivered of—			Total
		Living Full-term child	Premature child	Deadborn child	
No.	72	1193	18	24	1307
Percentage	5.5%	91.3%	1.4%	1.8%	100%

With regard to the condition of children born of tuberculous mothers : we have kept records of the condition of a number of these children over a period of eight years. All these children were born since the mothers were diagnosed tuberculous, and the reports on their health at the end of the year 1931 were as follows :—

Table 25.—Shows the condition of 812 children born of tuberculous mothers.

	Healthy	Delicate	Tuberculous	Dead	Total
No.	611	76	22	103	812
Per Cent.	75.3%	9.3%	2.7%	12.7%	100%

CLIMATIC CONDITIONS.

It is a matter for regret that the capital of Northern Ireland should still lack an official meteorological station, for although private observers give records of rainfall, air temperature, etc., no record is available of the hours of bright sunshine in Belfast. In the absence of such a record it is impossible to say whether Belfast is better or worse off in this respect than other cities, but in an industrial city like ours the amount of sunshine which reaches the ground level must be seriously lessened by domestic and industrial smoke, thus retarding the normal growth of children, and impairing the health of the community.

I am indebted to Miss Firth, of Cavehill Road, for the following figures :—

RAINFALL.

Table 26.—Shows the Rainfall in inches and the days on which rain fell during the year 1931, as compared with 1930, and 1929.

Year	Rainfall in inches.	Days on which rain fell.
1929	42.37	237
1930	42.05	244
1931	43.25	263

March with 1.45 ins. of rain was the driest month of the year ; November with 5.88 was the wettest.

LOST MEDICAL OPPORTUNITIES.

For many years past I have observed that much valuable clinical material is annually lost to students of medicine through the fact that tuberculosis—and more especially pulmonary tuberculosis—is not treated for any length of time in general hospitals. With the exception of a few students who find their way, almost by accident, to the Tuberculosis Institutes, little use is made of the clinical material available, or of the valuable opportunities there presented of becoming acquainted with the diagnosis and treatment of tuberculosis—a disease that claims almost ten per cent. of all deaths, and judging from the chronicity of the disease a much larger percentage of the sickness in the community.

SUMMARY.

1. During the year, 1,894 persons notified as suffering from signs of tuberculosis in various forms were examined, as compared with 1,638 in the previous year (vide Table 1).

2. Of the 1,894 persons examined during the year, 54 per cent. were found to be tuberculous, and 9 per cent. "suspect," while 37 per cent. were regarded as not suffering from tuberculosis (vide Table 2).

3. The re-attendances of old patients at the Institutes, for examination and treatment, numbered 20,716 as compared with 27,897 in the year 1930. This in addition to the 1,894 new patients examined, makes a total of 22,610 attendances and treatments during the year. 149 old patients were too ill to attend the Institutes and were re-examined in their own homes, and 72 were re-examined at the Belfast Infirmary, by the Staff of the Institutes. This, of course is exclusive of attendances on patients in their own homes by Panel Doctors, and Domiciliary Doctors acting under the scheme of the Corporation.

4. The numbers of patients on the various forms of treatment at the 31st December were as follows:—

Institutes	1,990
Panel and Domiciliary	3,093
Sanatorium	242
Graymount Hospital	57
Graymount O.A. School	119
Total	5,501

5. The number of visits paid by the Visiting Nurses to patients in their own homes during the year was 31,704.

6. The total number of patients who received treatment during the year was 6,977.

7. **Table 27.**—Shows the results of treatment according to the reports received from Institute, Institutional and Domiciliary Doctors:—

Form of Treatment.	Reports received throughout the Year.	Condition as shown in Reports received during the last Quarter of the Year.				
	D.A.C.* or D.Q.	G.I.	Imp.	I.S.Q.	Worse	Total.
In Municipal San.	1	7	116	84	6	214
Discharged Municipal Sanatorium ..	14	11	67	40	7	139
In Graymount Hospital	9	26	12	11	1	58
Discharged Graymount Hospital ..	15	..	..	1†	..	16
At Graymount Open Air School ..	..	2	76	28	3	109
Domiciliary ..	126	73	891	1,756	179	3,025
Institutes ..	12	5	462	311	6	796
Total ..	176	124	1624	2231	202	4,357

*D.A.C.—Disease apparently cured.

D.Q.—Disease Quiescent.

G.I.—Greatly Improved.

† Removed by mother after 9 days.

Imp.—Improved.

I.S.Q.—In Statu quo.

8. During the year 464 persons died of the pulmonary form of tuberculosis and 104 of the non-pulmonary forms as compared with 426 and 149 respectively in the preceding year.

9. Of the 568 persons who died in Belfast from all forms of tuberculosis during the year, 424 were patients under the care of this Department. Of these 58 died within one month of their first examination by us ; 159 within six months ; 207, or over 51 per cent. within one year. From these figures it may be inferred that the stage at which patients are first notified is often too late to admit of effective treatment.

10. **Table 28.**—Shows the declining trend of the death rate from pulmonary tuberculosis in Belfast during the last 14 years :—

Year.	No. of Deaths.	Death rate per 100,000.	Comparison with 1918 as 100.
1918	1051	267	100
1919	853	212	81.16
1920	762	184	72.5
1921	677	161	64.4
1922	624	147	59.37
1923	571	133	54.33
1924	605	139	57.56
1925	575	131	54.7
1926	570	136	54.2
1927	515	124	49.0
1928	499	120	47.3
1929	485	116	46.14
1930	426	102	40.5
1931	464	111	44.1

From this Table it will be seen that for every 100 persons who died of Pulmonary tuberculosis in Belfast in 1918, only 44.1 died of the disease in 1931—a reduction in the rate, of almost 56 per cent. in fourteen years.

I am, Ladies and Gentlemen,

Your obedient servant,

Andrew Trimble

Chief Tuberculosis Officer.

MUNICIPAL SANATORIUM, WHITEABBEY.

REPORT

OF THE

Medical Superintendent.

MEMBERS OF THE TUBERCULOSIS COMMITTEE, 1931.

THE RIGHT HONOURABLE THE LORD MAYOR,
Councillor SIR CRAWFORD McCULLAGH, J.P.

Councillor W. A. COCHRANE, J.P.
(Chairman).

Councillor W. P. NOBLE
(Deputy Chairman).

Alderman W. H. ALEXANDER, Alderman R. PIERCE, Alderman CAPT. WM. REID, J.P.
Alderman DR. J. D. WILLIAMSON.

Councillor J. BOYLE.	Councillor J. HOLLAND.
Councillor MRS. L. COLEMAN.	Councillor S. KYLE.
Councillor C. SCOTT.	Councillor DR. H. P. LOWE.
Councillor LT. COM. R. M. HARCOURT.	Councillor M. McKIBBIN.
Councillor M. HOPKINS, J.P.	

MISS E. McCOMB.
MR. K. M. ALEXANDER (F.I.A.A.).
MR. JAS. PARKHILL, J.P.

STAFF OF THE MUNICIPAL SANATORIUM.

Medical Superintendent	..	Dr. Percival S. Walker.
Visiting Physician	..	Dr. John C. Rankin.
Resident Medical Officer	..	Dr. Denis K. Watterson.
House Physician	..	Dr. Audrey E. Lavelle.
Visiting Dental Surgeon	..	Mr. Osborne Black, L.D.S.
Visiting Chaplains	..	Very Rev. J. O'Neil, P.P., V.F.
	..	Rev. W. B. McMurray, B.A.
	..	Rev. Finlay Maguire, B.A.
Matron	..	Miss E. Woods, S.R.N.
Steward	..	Mr. Stewart Finlay.
Engineer	..	Mr. Samuel McClure, (Retired 1/2/31).

REPORT OF THE MEDICAL SUPERINTENDENT
 ON THE WORKING OF
THE BELFAST MUNICIPAL SANATORIUM,
For the Year Ended 31st December, 1931.

SUBMITTED TO THE MEDICAL SUPERINTENDENT OFFICER OF HEALTH, THROUGH
 THE CHAIRMAN AND MEMBERS OF THE TUBERCULOSIS COMMITTEE,

LADIES AND GENTLEMEN,

I have the honour to submit my Annual Report on the working and progress of the City Sanatorium for the year ended 31st December, 1931.

In order to facilitate comparative reference and to preserve the formal continuity of these reports, I have made use of the usual sections and statistical tables.

Situation.—The Sanatorium is situated about five and a half miles north of the city centre on the southern slopes of the Belfast Hills, which shield it from cold winds. With the Lough below the patients receive both sea and mountain air.

Maintenance.—The Sanatorium is maintained on a basis of "State and Rated," one half of the maintenance being provided by the City Rates and one half by the Ministry of Home Affairs.

Capacity.—The number of beds provided is 285, distributed according to Table No. 1. The Sanatorium is equipped for the reception and treatment of cases of pulmonary and surgical Tuberculosis at all ages.

Type of Case.—A study of the figures set forth in Table No. 5 reveals no sign of any improvement in the average type of case admitted into the Sanatorium, and indeed the majority of the cases are tabulated under group 3, the general trend being downwards. Cases with limited or unilateral disease remain rare. This finding is unfortunate in that extensive infection of both lungs definitely contra-indicates the most valuable mode of therapy at our command viz., artificial pneumothorax. Not a few patients indeed are admitted when the curtain is rung down upon consideration of any active treatment.

Duration of Residence.—The average duration of residence for all patients was 161 days.

Accommodation—Patients.—The accommodation in the advanced sections has been taxed to the utmost throughout the year, whilst that of the convalescent adult and children's sections has at no time been insufficient. By reason of the large increase in the number of admissions of children suffering from "surgical" forms of tuberculosis the Tuberculosis Committee early in the year decided to equip No. 1 Pavilion with a service annexe and so fit this block to accommodate 36 children suffering from non-pulmonary lesions. As some 20 of these children are accommodated in the hospital their transfer to the newly equipped pavilion will render a corresponding number of beds available in the hospital for the reception of advanced cases.

It is nevertheless inconceivable to me how it comes about that so many of our beds in the children's pavilion lie empty for longer or shorter periods of the year. If the scourge of tuberculosis is to be wiped out I submit that the children afford a more hopeful means of attack, than that of nursing bedridden and advanced cases until the inevitable end. I, of course, fully recognise the necessity of the segregation of advanced positive or infectious cases, but unfortunately the Municipal Sanatorium is not structurally adapted as an acute hospital.

It must be appreciated that hospital bed accommodation is not always interchangeable. For example, a bed in a women's ward is not available for a male case, nor is a bed in a pulmonary ward suitable for a non-pulmonary case. The number of beds available is not, therefore, in itself sufficient information upon which to draw conclusions as to adequacy of accommodation. The problem must be considered in the terms not of so many sick, but rather in terms of their special complaints, even in a sanatorium.

Staff.—The housing of the nursing and domestic staff still leaves much to be desired. It is hoped to obtain the present children's dining room in the administrative block as a recreation room for the junior nursing staff. To obtain the best services of the staff, it is essential that they should be comfortably accommodated. I append herewith a salient paragraph extracted from a current journal, which goes to show that our lack in respect of accommodation is by no means unique—

“The happiest solution to the problem would be for every hospital to provide single rooms for its staff as a general rule, and to keep in reserve one or two double bedrooms which could be shared by friends or sisters who wanted to be together, or by new probationers for their first few weeks in hospital. Lack of funds may be brought forward as an objection to this scheme, but until a hospital can provide adequate accommodation for its nursing staff it has at least no right to spend money on any other extension.”

This later comment applies with especial force to the Municipal Sanatorium. Already the Nurses' Home is seriously overcrowded. Before any extension of the wards is even contemplated, further accommodation for nursing staff must be available.

REPAIRS AND IMPROVEMENTS.

The year 1931 has been one of unprecedented and phenomenal progress in the Institution and has been milestoned by more improvements of a far-reaching character than any decade since the inception of the Sanatorium. I set out hereunder the various improvement schemes of the year with a very brief explanatory note in each case:—

(1) **Erection of Service Annexe to No. 1 Pavilion :** As already indicated under “Accommodation” this annexe will permit of the more complete utilization of the total available accommodation at the Sanatorium. It will also enable the nursing of children who are confined to bed to be carried on in a building remote from that occupied by adults. In itself this department will be a miniature orthopaedic hospital of 36 beds. The cost was £1,172.

(2) **Cooking Plant :** The entire steam cooking plant in both kitchens (in the hospital and in the administrative block) has been replaced by modern gas apparatus and thereby a greatly enhanced efficiency provided together with a definite economy in expenditure. The cost has been approximately £800.

(3) **Refrigerator Room :** The hospital kitchen has been further equipped with a refrigerator room. The value of this addition requires no commendation.

(4) **Domestic Hot Water :** The steam boilers in the administrative block and in the hospital have been replaced by modern slow combustion boilers. Hot water is now available at all hours day and night ; simultaneously a reduction in the wages bill has been effected.

(5) **X-Ray :** An up-to-date X-ray plant has been installed in a new department obtained by the remodelling of the store rooms in the hospital. Our old apparatus has rendered yeoman service since 1922 and owes us nothing.

(6) **Operating Theatre :** The previous X-ray room has been remodelled, painted, and equipped with sterilizing apparatus as an operating theatre, thus fulfilling a long desired want in the hospital section.

(7) **Brickwork :** Under the supervision of the City Surveyor the rear wall of the hospital building has been reconstructed and is now free from defect.

(8) **Paths and Carriageways :** A further section of the carriageways has been laid down in concrete, and a number of paths in tar-macadam. The broad stretches in front of the four pavilions have been "flagged." I should like here to acknowledge our indebtedness to the City Surveyor and his Staff for the very excellent results which have been obtained under his supervision of the reconstruction of the roads and walks in the sanatorium grounds.

(9) **Electric Light, Etc. :** The Institution's electric light and power is now obtained from the city mains under the Belfast City Electrical Extension Scheme. The advent of this scheme in the Whiteabbey area has been particularly opportune in that the two diesel engines and the battery have been causing some concern recently as to their ability to maintain the supply. Considering that this plant has given excellent service for over 20 years without any serious dislocation it was not unexpected that wear and tear should begin to manifest themselves.

(10) **Farm Garden :** This produce garden which was re-opened in 1930 is now providing a practically continuous supply of fresh vegetables. The value of fresh vegetables (vitamin-carriers) in the dietary of the sanatorium is only too self-evident and does not require emphasis.

From the above outline it is obvious that the progress of the sanatorium has made rapid strides during the past year.

STAFF COMPLEMENT.

The staff complement shows a few changes and alterations since last year.

I have to report with regret the resignation of Mr. Samuel McClure, who has held the appointment of engineer to the sanatorium since its inception. Mr. McClure was the engineer-in-charge when the present diesel electric plant was installed, and it was a source of much regret to him that reasons of health prevented him from being responsible for the change over to the city supply which has just been completed.

I should like to take this opportunity to place on record a tribute to the very loyal and willing co-operation of a most efficient officer. The electrical and mechanical plant in the sanatorium were at the one and the same time Mr. McClure's hobby and pride, and upon no occasion during his long service was a failure experienced in the wards.

Consequent upon the increased proportion of helpless and bedridden patients in residence it has been found necessary to augment the permanent staff by the appointments of an additional staff nurse and two probationer nurses.

The replacement of the steam plant by slow combustion boilers has enabled us to dispense with the services of two firemen, one of whom has been retained as a labourer in connection with the new surgical wing.

The complement is now as follows:—

General Staff—			Engineering Staff—		
Medical Superintendent	..	1	Fitter-in-Charge	..	1
Assistant Medical Officers	..	2	Firemen	..	2
Visiting Physician	..	1	Assistant	..	1
Visiting Dental Surgeon	..	1			
Visiting Chaplains	..	3			
Nursing Staff—			Outdoor Staff—		
Matron	..	1	Gardener	..	1
Sisters	..	5	Assistant Gardener	..	1
Staff Nurses	..	6	Carpenter	..	1
Probationers	..	22	Assistant to Carpenter	..	1
			Porters	..	3
			Labourers	..	5

Clerical Staff—

Steward	..	..	1
Clerks	..	..	2

Domestic Staff—

Sewing Mistress	..	1
Cooks	..	2
Maids, etc.	..	19

Open-Air School—

Mistresses	..	..	2
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CLASSIFICATION OF PATIENTS SUFFERING FROM TUBERCULOSIS.

In this report the following system of classification of cases and of recording results has been used:—

Classification.

(1) Patients under 15 years of age are classed as children, and those of 15 years and upwards as adults.

(2) Patients are classified according to the organ or parts affected as follows :

(1) **Pulmonary Tuberculosis** (including tuberculosis of pleura or intrathoracic glands).

(2) **Non-Pulmonary Tuberculosis.**

Patients suffering from both pulmonary and non-pulmonary tuberculosis are classified as pulmonary cases.

(3) Patients suffering from Pulmonary tuberculosis are divided into:—

(1) **Class T.B. Minus**, viz. cases in which tubercle bacilli have never been demonstrated in the sputum, pleural fluid, fæces, urine, etc.

(2) **Class T.B. Plus**, viz. cases in which the presence of tubercle bacilli has at any time been demonstrated.

Class T.B. Plus is further sub-divided into three groups, as follows:—

Group 1.—Cases with slight constitutional disturbance, if any, and in whom the obvious physical signs are of a very limited extent.

Group 2.—Cases which cannot be placed in Groups 1 and 3.

Group 3.—Cases with profound systemic disturbance or constitutional deterioration with marked impairment of function, and with little or no prospect of recovery.

(4) Patients suffering from non-pulmonary tuberculosis are classified according to the site of lesion, as follows:—

(1) Tuberculosis of bones and joints, i.e., “osseous.”

(2) Tuberculosis of peritoneum, intestines, or mesenteric glands, i.e. abdominal.

(3) Tuberculosis of other organs.

(4) Tuberculosis of peripheral glands.

Patients suffering from multiple surgical lesions are classified in one subgroup only, viz. in that applicable to the case which stands highest in the immediately preceding list.

RESULTS OF TREATMENT.

The following terms are used to describe the results of treatment :—

“ Quiescent.”—Cases which have no symptoms of tuberculosis, and no signs of tuberculous disease, except such as are compatible with a completely healed lesion, and in whom the sputum, if any, is free from tubercle bacilli.

“ Improved.”—Cases short of “ quiescent,” in whom the general health is fair, and the symptoms of tuberculosis have materially diminished.

“ No Material Improvement.”—All other patients who are alive.

It will be noted that the terms “ arrested,” or “ recovered,” or “ cured,” do not appear in these reports. The sanatorium being a residential institution such terms are inapplicable and the use of them would be misleading and erroneous. The official interpretation of such terms explains the position clearly :—

“ Arrested.”—Cases in which the disease has been “ quiescent ” for a period of two years.

“ Recovered or Cured.”—Cases in which the disease has been “ arrested ” for at least three years.

It will therefore be seen that such terms are out of place in a report of an institution, where residence is necessarily measured in months, and not in years.

STATISTICS.

The following Tables cover the period extending from 1st January, 1931, to 31st December, 1931. The accommodation has now been re-arranged and is composed of 229 beds for the reception of pulmonary cases and 56 beds for surgical cases subdivided as shown in Table No. 1.

Table No. 1.—Average number of beds available :—

	Pulmonary Tuberculosis.			Surgical Tuberculosis.		Total
	Ambulant	Hospital Advanced.	Pavilions Convalescent.	Hospital	Pavilions.	
Children ..	..	..	28	..	36	64
Males ..	75	25	22	12	..	134
Females ..	..	25	54	8	..	87
Total ..	75	50	104	20	36	285

Table No. 2.—Annual Return showing the extent of treatment during year.

	In Institution 1/1/31.	Admitted during year.	Discharged during year.	Died.	In Institution 31/12/31.
Number of Patients.	209	569 (Including 13 re-admissions).	490 (Including 10 re-discharges).	46	242

Table No. 3.—Annual Return showing the numbers of persons admitted during year, classified according to the type of disease (excluding 13 cases re-admitted).

Type of Case.	Men.	Women.	Children.	Total.
Pulmonary Tuberculosis ..	224	161	93	478
Surgical Tuberculosis ..	13	12	44	69
Re-classified ..	7	2	..	9
Total ..	244	175	137	556

Table No. 4.—Annual Return showing the numbers of persons discharged during the year, classified according to type of disease (excluding 10 cases re-discharged).

	Men.	Women.	Children.	Total.
Pulmonary Tuberculosis ..	212	128	78	418
Surgical Tuberculosis ..	10	10	33	53
Re-classified ..	7	2	..	9
Total ..	229	140	111	480

Average duration of residence per patient:—

Patients discharged during 1931 .. 161.09 days

Patients died during 1931 .. 165.1 days

Total Patients discharged or died during 1931 .. 161.4 days

NON-TUBERCULAR CASES AND OBSERVATION CASES.

Nine cases were admitted to be suffering from the following complexes.—

Cases Reclassified :—

- 1.—3,677.—Carditis.
- 2.—3,693.—Asthma.
- 3.—3,788.—Specific Disease.
- 4.—3,823.—Specific Disease.
- 5.—3,841.—Carditis.
- 6.—4,130.—Carcinoma.
- 7.—3,881.—Observation Case.
- 8.—4,032.—Asthma and Bronchitis.
- 9.—3,858.—Previous spinal fracture.

PULMONARY SECTION.

ADMISSIONS.

During the year 1931, 478 patients suffering from pulmonary tuberculosis, excluding those re-admitted on a second or third occasion during the period under review, were received for treatment in the Municipal Sanatorium. This admission rate is greatly in excess of the rates of previous years, these being 385, in 1930, 407 in 1929, 437 in 1928, 441 in 1927, 327 in 1926, 407 in 1925, and 446 in 1924, and constitutes a record.

Table No. 5.—Shows these patients as analysed and scheduled according to age, sex and gradation of disease :—

	CLASSIFICATION.	Men.	Women.	Children.	Total.
Pulmonary Tuberculosis.	Class T.B. Minus ..	105	101	90	296
	Class T.B. Plus—Group 1. ..	..	..	..	..
	Class T.B. Plus—Group 2. ..	16	16	1	33
	Class T.B. Plus—Group 3. ..	103	42	4	149
	Total	224	159	95	478

The following complications were noted upon admission or occurred during residence :—

Other Forms of Tuberculosis :—

a. Osseous	9	Epilepsy (Jacksonian) ..	2
b. Larynx	9	Neurasthenia ..	2
c. Glandular	8	Hernia ..	2
d. Genito-urinary ..	3	Eye Conditions ..	3
e. Abdominal	5	Raynaud's Disease ..	1
Spontaneous Pneumothorax ..	1	Lead Poisoning ..	1
Haemoptysis (severe) ..	9	Varicose Veins ..	2
Syphilis	4	Renal Conditions ..	1
Pleural effusion	3	Cerebral Abscess ..	1
Hemiplegia	1	Bronchitis ..	4
Haemorrhoids	6	Rheumatic Fever ..	1
Cardiac Lesions	10	Ischiorectal Abscess ..	9
Anterior Poliomyelitis ..	1	Diabetes ..	3
Ear Conditions	6	Parkinsonism ..	1
Gastro-duodenal Conditions ..	5	Osteo-arthritis ..	2
Skin Diseases	3	Malaria ..	1
Hyperthyroidism	1		

It will be readily seen from the above list the varied conditions which daily present themselves for treatment in addition to the complex of tuberculosis.

Noteworthy features indicated in Table No. 5 may be briefly enumerated as follows :—

- (1). The high preponderance of the adult male admission rate.
- (2). The low level of the children's rate, and
- (3). The sputum-positive index which is 38% of the total number or 36% if the children be excluded. It may here be noted that it is a rare occurrence to find tubercle bacilli present in the expectoration of children except in the far advanced stages of the disease. The number of sputum positive children admitted last year is 5, which is rather unusual.

I may here call attention to the necessary admission of many patients in progressively advancing stages of the disease, for whom nothing can be done and who would normally in other centres be retained in the local infirmaries. Such cases occupy our beds for very prolonged and indefinite periods to the detriment of other patients who are desirous of admission to the sanatorium, and for whom active therapeutic measures may be indicated. It may be that upon occasion such cases are thereby debarred from admission until such times as they too have joined the ranks of those previously referred to. Again, from an economic point of view Sanatorium residence which in this type of case is valueless and without result, is considerably more costly than similar residence in an infirmary. I realise that in Belfast the Local Authority have shouldered the responsibility of medical and

nursing attention of the tuberculous, but I respectfully suggest that both from an administrative and from an economic point of view it would be advantageous to the Local Authority to make application for the use of a number of beds in the City Infirmary at a fixed charge. Thereby, until the advent of extended municipal accommodation, beds would be available for suitable cases at earlier dates and a saving to the local exchequer effected.

DISCHARGES.

During the same period 418 pulmonary patients were discharged (excluding those cases "re-discharged" and "re-classified"), and 45 died. The results of treatment are indicated in the following Table (No. 6).

Table No. 6.

	DURATION OF RESIDENCE IN SANATORIUM.													
Condition upon Admission.	Condition upon Discharge.	Under 3 months			3—6 months			6—12 Months			Over 12 months			Total.
		M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
Class T.B. Minus	Quiescent	—	—	—	1	4	1	—	—	—	2	—	2	10
	Improved	33	41	36	26	21	6	17	5	7	11	3	2	208
	N.M. Imp.	11	12	19	1	2	—	—	—	—	1	—	—	46
	Died	1	—	—	—	—	—	—	1	—	—	—	—	2
Class T.B. “—” Plus Group 1	Quiescent	—	—	—	—	—	—	—	—	—	—	—	—	—
	Improved	—	—	—	—	1	—	—	—	—	—	—	—	1
	N. M. Imp.	—	—	—	—	—	1	—	—	—	—	—	—	1
	Died	—	—	—	—	—	—	—	—	—	—	—	—	—
Class T.B. “—” Plus Group 2	Quiescent	—	—	—	—	—	—	—	—	—	—	—	—	—
	Improved	1	1	—	1	—	—	—	—	—	—	—	—	3
	N. M. Imp.	—	—	—	—	—	—	—	—	—	—	—	—	—
	Died	1	—	—	—	—	—	—	—	—	—	—	—	1
Class T. B. “—” Plus Group 3	Quiescent	—	—	—	—	—	—	—	—	—	1	—	—	1
	Improved	19	14	—	16	3	—	19	6	—	15	3	1	96
	N. M. Imp.	22	9	2	9	2	—	5	1	—	2	—	—	52
	Died	16	6	—	5	6	—	1	2	—	5	1	—	42
	Total	104	83	57	59	39	8	42	15	7	37	7	5	463

Features worthy of enumeration may be summarised as follows:—

(1).—Corresponding to the increased admission rate, the discharge rate is also the highest recorded.

(2).—The large proportion of patients who failed to remain under treatment for a longer period than 3 months. Various reasons are daily vouchsafed in requests for early discharge. A prominent and natural reason on the part of men is that financially they are unable to stay longer than they themselves feel absolutely necessary and they go out to return to a vacancy kept open for them; a second frequent reason given by women is "children at home" and occasionally the opportunity of a part-time occupation when the husband is out of work. Children are not infrequently removed by their parents on the grounds that the former will undoubtedly get pneumonia, although it is pointed out to them that the first case of acute pneumonia in the sanatorium has yet to be diagnosed. Other reasons given are "fed-up," "too cold," and of course when the outlook is immediately grave no objection is raised.

During the past year by reason of the exceptionally heavy demand upon beds no objection was raised to the discharge of any patient who had completed a fair term of residence and who had shown signs of definite improvement. Cases in which objection was strongly taken were those who subsequent to admission,

clinical and radiological examination, sputum and blood examination, suddenly discharged themselves in the course of 2—4 days ; such cases have been in very many instances re-admitted at later dates with the lung condition greatly deteriorated.

The actual results of treatment may, further, be summarised as follows : 11 patients were discharged with no sign of clinical active tuberculosis. A further 308 patients were discharged as "improved" or "greatly improved." (These two previous classifications are now incorporated under the one heading of "improved"), of these it is hoped that a goodly proportion will, under the extern scheme, progress to a stage of quiescence or ultimate arrest. The vast majority of cases discharged as "quiescent" and "improved" are physically self-supporting and if economic conditions were normal would be able to find suitable remunerative occupations ; unfortunately, as a result of the world wide industrial depression the ex-sanatorium patient has little chance in competing against those free from the suspicion and who themselves are vieing keenly with each other for employment. As a consequence not all our discharged patients can earn sufficient to provide sufficient and suitable nourishment, and this combined with the worries and anxieties connected with the up-bringing of a young family on meagre funds militates greatly against his chances of quiescence or even holding his own in not a few instances.

99 Patients were discharged as not materially improved ; many of these are found in the group already referred to for whom perhaps a less costly and equally efficient medical service could be obtained. The deaths in the pulmonary section numbered 45 ; these are dealt with at a later stage.

SURGICAL SECTION.

ADMISSIONS.

During the year 69 patients suffering from the so-called " surgical tuberculosis " were received for treatment. Of this number 44 were children. This steadily increasing admission rate of surgically affected children necessitated the inception of a new department to cope with these cases and it was for this reason that in the earlier part of the year the Tuberculosis Committee resolved to set aside one pavilion and to equip the same with an annexe consisting of kitchen, pantry, doctor's room, plaster room, and the necessary store and additional lavatory accommodation. This work was completed towards the close of the year and to-day the sanatorium includes a miniature hospital for the reception and treatment of children affected with this form of the disease. This new addition in our work is a welcome departure from our previous conditions, and this pavilion presents a brighter and more optimistic atmosphere than the hospital section proper.

Table No. 7 is an analysis of those cases of surgical disease scheduled according to the nature and disposition of the lesion :—

		Bones and Joints.	Abdominal.	Glandular.	Other Organs.	Total.
Men	..	9	2	1	1	13
Women	..	11	..	..	1	12
Children	..	16	17	10	1	44
Total	..	36	19	11	3	69

DISCHARGES.

The number of cases under this heading totalled 53 discharges and 1 death and the immediate results of treatment are indicated in Table No. 8 :—

Table No. 8.

	DURATION OF RESIDENCE IN THE SANATORIUM.													
Type of Disease upon Admission.	Condition upon Discharge.	Under 3 months M. F. Ch.			3—6 months M. F. Ch.			6—12 months M. F. Ch.			Over 12 months M. F. Ch.			Total
Osseous	Quiescent	—	—	—	—	—	1	—	1	—	—	—	2	4
	Improved	—	—	2	1	1	1	2	3	4	1	2	1	18
	N. M. Imp.	2	1	—	—	—	—	—	1	1	—	—	2	7
	Died	—	—	—	—	—	—	1	—	—	—	—	—	1
Abdominal	Quiescent	—	—	1	—	—	—	—	—	1	1	—	3	6
	Improved	1	—	7	—	—	—	—	—	—	—	—	—	8
	N. M. Imp.	—	—	1	—	—	—	—	—	—	—	—	—	1
	Died	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Organs	Quiescent	—	—	—	—	—	—	—	—	—	—	—	—	—
	Improved	—	—	—	—	—	—	—	—	—	—	—	—	—
	N. M. Imp.	—	—	—	—	—	1	—	—	—	—	—	—	1
	Died	—	—	—	—	—	—	—	—	—	—	—	—	—
Glandular	Quiescent	—	—	—	—	—	1	—	—	—	—	—	—	1
	Improved	—	—	2	1	—	1	—	—	1	1	—	—	6
	N. M. Imp.	—	1	—	—	—	—	—	—	—	—	—	—	1
	Died.	—	—	—	—	—	—	—	—	—	—	—	—	—
Total ..		3	2	13	2	1	5	3	5	7	3	2	8	54

From this statement it can readily be ascertained that 11 patients suffering from surgical forms of tuberculosis were discharged with no sign of active disease and that a further 32 left the sanatorium exhibiting manifest improvement; 10 were discharged having obtained no benefit from residence and 1 died. Considering the average condition of the type of case admitted, these figures may be taken as eminently satisfactory. Once more it falls to my lot to draw attention to the late stage at which many children are received for treatment. I can recall during the year numerous children who have been under other hospital treatment for years and who eventually find themselves in the sanatorium. This state of affairs is not just either to the patient concerned or to the final institution. It would appear that in this respect the sanatorium is not infrequently made use of as an asylum (using the word in its generic application) and this is exactly what the sanatorium is not and ought not to be.

On the whole, however, the surgical department is one of great interest and encouragement. The new pavilion is to-day totally occupied with children, all of whom I trust may be discharged able to fit themselves for the battle of life and who will perhaps look back in years to come upon their sojourn in Whiteabbey with happy recollections and thankfulness to those in charge of our City administration.

TREATMENT.

There has been no change in the general basic principles of sanatorium treatment. Rest with or without graduated exercise is still the cardinal factor. Absolute rest is enforced when activity in the lesion is indicated by any degree of pyrexia. Patients with normal temperatures who are exhibiting signs of healing processes rest in the recumbent position for several separate periods daily ("rest hours"). Other periods are devoted to exercise which is strictly graduated to the patient's tolerance. A day's routine of an apyrexial and improving case is shown by the following table:—

6 a.m.—7 a.m.	..	Temperature taken, etc.
7 a.m.	..	Dress.
8 a.m.	..	Breakfast.
9 a.m.—9-30 a.m.	..	Rest period.

9-30 a.m.	..	Medical Inspection, Examination, Special Treatment, etc.
9-45 a.m.—11-30 a.m.		Graduated exercise for those not required for medical purposes.
11-30 a.m.—12-15 p.m.		Rest period.
12-15 p.m.—1 p.m.	..	Dinner.
1 p.m.—2 p.m.	..	Rest period.
2 p.m.—4 p.m.	..	Graduated exercise, temperature taken, etc.
4-30 p.m.	..	Tea.
4-45 p.m.—6 p.m.	..	Recreation.
6 p.m.—7 p.m.	..	Rest period.
7 p.m.	..	Supper.
8 p.m.	..	Temperature taken, etc.
8-45 p.m.		Bed.
9 p.m.	..	Lights out.

To have a definite conception of the relationship existing between the patient and his or her disease it is necessary to have strict discipline, otherwise it is not possible to realise or assess accurately the amount of activity which produced a certain result; without this knowledge the next step taken must be one taken in the dark and thus the whole significance of treatment by "rest and graduated exercise" is missed and the patient suffers.

From the above it is obvious that much depends on the patients themselves, and they are very earnestly besought to co-operate with the medical staff in all matters. It has been truly said that "no fool will ever be cured of tuberculosis."

Especial forms of therapy available in the Municipal Sanatorium for such cases as are found suitable include:—

- (1).—Various gold preparations—Sanocrysin, Solganol, Crisalbine.
- (2).—Artificial Pneumothorax (X-Ray controlled).
- (3).—Actinotherapy—Radiant Heat and Ultra-Violet Radiation.
- (4).—Serotherapy.
- (5).—Various preparations—Jacobsen's Solution, Methyl Alcohol, etc.

Cases of surgical disease are of necessity treated according to the type of disease and the part affected; immobilization, actinotherapy and various operative measures are daily practised.

Gold Preparations:—4 Patients were treated with Sanocrysin and 13 with Solganol. The immediate results were as follows:—

		Quiescent.	Improved.	No material Improvement.
Sanocrysin	.. ..	1	2	1
Solganol	.. ..	2	9	2

Sanocrysin :—With regard to Sanocrysin, a moderate dose method was adopted, this being a compromise between the small dose method and the large dose method. I have never, however, been quite satisfied that more permanent results were not previously obtained by the large dose method, the objections to which were the severe and dangerous reactionary sequelae which attended the administration of a large dose. In this connection I note with interest that the same problem has presented itself elsewhere. In the current medical literature Dr. Knud Secher (Copenhagen) attributes failures to obtain good results in treatment to faulty, usually too low, dosage. On the other hand in the same issue

Dr. Pask (Lancashire) reports that he has discontinued large doses. He avoids reactions by careful spacing and slow increase of the doses. Further, Stub-Christeusen (Silkeborg Sanatorium) states that from his investigation it may be assumed that the dosage has been of minor importance in relation to the results.

Solganol :—This preparation of gold appears to be practically free from reactionary sequelae. Over 20 cases have up to date received this form of treatment, but I should prefer to postpone judgment on the results for a further period of observation.

Artificial Pneumothorax :—33 Refills were administered during the year, and two operations of “gas replacement” were performed where the presence of coincident pleural effusions was attended by pulmonary embarrassment. Two of the refill cases were patients in whom the artificial pneumothorax had been induced in America or who had or had been returned home.

I should here emphasise my deep regret that more cases are not forthcoming suitable for this valuable mode of therapy.

Serotherapy :—Ruppel's Serum is still used where its administration may be of benefit e.g. in cases of surgical disease where the bovine type of serum is used, and in cases of pulmonary disease where the patient is making slow progress and is harassed with troublesome symptoms. In such cases of course the human type of serum is used. I do not hold that Ruppel's Serum is any panacea for tuberculosis, but experience definitely shows that the administration of it will undoubtedly relieve symptoms, induce better sleep and in this way the resisting powers of the body as a whole are recruited. In other words the serum in itself bears to some extent a part of the attack; thus alleviating the stress upon the organism, and giving it a better opportunity to recuperate.

Actinotherapy :—This form of treatment has not been used in cases of active pulmonary disease; its exhibition has rather been confined to cases of non-pulmonary disease, and to cases of undernutrition, marasmus, and rickets in children. During the year two of the larger wards were further equipped with radiant heat lamps.

It is proposed this year (1932) to extend this mode of therapy by the installation of 2 carbon arc lamps in the Children's No. 1 Pavilion, which has been set apart for the accommodation of children suffering from surgical disease.

DEATHS.

46 patients died in the Institution during the year 1931.

A brief analysis of the relevant data connected with the life-histories of these patients is instructive and I therefore, briefly indicate a few of the more salient features.

Table No. 9 shows the age periods in years :—

	Up to 14 years.	15 to 20 years.	21 to 25 years.	26 to 30 years.	31 to 35 years.	36 to 40 years.	41 to 45 years.	46 to 50 years.	Over 50 years.
No. of Deaths	..	13	6	10	2	3	6	3	3

It will be observed that no child (i.e. aged 14 years or under) died in the Institution during the year. The total number is composed of 30 men and 16 women.

Family History :—In 16 cases careful enquiry elicited the information that there was an antecedent history of tuberculosis in the family.

It may be that tuberculosis selects its victims from amongst virgin soil, in that the defensive powers of the later are not developed to the fullest extent.

Sputum Bacteriological Examination :—In 40 cases the report of the bacteriological examining officer indicated the presence of tubercle bacilli in the expectoration upon admission. It will readily be seen that this is a very high index, and emphasises strongly the grave responsibility attached to the procedure of waiting for a positive bacteriological report before instituting active therapeutic measures. Except in rare instances a positive bacteriological report means nothing except confirmation, a negative bacteriological report means absolutely nothing, and the confirmation report merely reveals that the patient is worse than the clinical examination indicates.

DURATION OF RESIDENCE IN SANATORIUM PRIOR TO DEATH.

The figures in each case exclude those preceding.

Less than 1 week	Less than 1 month	Less than 3 months	Less than 6 months	Less than 1 year	Over 1 year
..	6	16	10	6	8

From this it will be seen that practically 74% of deaths occurred within six months of entering the Sanatorium ; for such cases no active treatment is available.

The Immediate Causes of Death :—

Pulmonary Tuberculosis	..	..	..	38
Osseous Tuberculosis	..	..	..	1
Multiple Tuberculosis	..	..	..	1
Diabetes	..	..	..	2
Uraemia	..	..	..	1
Fatal Haemoptysis	..	..	..	1

The Non-Tubercular Causes of Death were :—

Cancer of Lung	..	..	..	1
Cerebral Haemoptysis	..	..	..	1

OPERATIONS.

The following operative measures were carried out during the year—

Induction and Refills of Artificial Pneumothorax				
Cases	..	..	..	34
Gas Replacements	..	..	..	2
Aspirations, Pleural	..	..	..	8
„ Abscess (Osseous)	..	..	..	48
„ Abscess (Glandular)	..	..	..	57
Incisions	..	..	..	42
Sequestrectomy	..	..	..	1

X-RAY DEPARTMENT.

306 Radiograms were taken during the year, and provided much useful evidence in the elucidation of various diagnoses, and in the assessment of the progress of patients undergoing especial modes of treatment.

ARTIFICIAL LIGHT DEPARTMENT.

	No. of Patients treated.	No. of Treatments given.
Ultra-Violet Radiation ..	47	840
Artificial Heliotherapy ..	55	2,881

LABORATORY.

Sputum : 575 specimens of sputum (including “ repeats ”) were examined during the year. The results are as follows :—

	On Admission	On Discharge
Positive ..	170	61
Negative ..	228	116

Work done by City Bacteriologist :—268 Blood examinations have been performed for the Sanatorium by the City Bacteriologist. The reports included 9 positive Wasserman results and 7 “ (+ —) ” returns.

I should here re-iterate my sincere thanks to the City Bacteriologist for the very great assistance rendered by him to this department.

	DENTAL REPORT PER MR. O. BLACK, L.D.S.			
	No. OF OPERATIONS			
Treatments	Fillings	Extractions	Dressings	Scalings
571	139	146	283	3

SUMMARY.

From a review of the year’s work and which will appear obvious from an analysis of the statistics already shown it again falls to my lot to emphasize the paramount necessity for early diagnosis.

Early diagnosis is, in itself, a measure of prevention and may be profitably utilised by the systematic examination of children and young adults and especially of such as have been in contact with a recognised case of pulmonary tuberculosis. However, as apparently occurs too frequently, systematic examination is not the “ end-all ” ; to be of value it must be followed by the institution of active treatment of those cases found to be suspect or diagnosed positively. The inclusion of tuberculosis amongst the compulsory notifiable diseases is then an important and highly desirable feature of the work of prevention and treatment because it would give ready access to the contacts. It has been shown in Philadelphia that 37.7% of school children were infected with tuberculosis at the age of 5 years, and 90.2% at the age of 18 years. Furthermore, 10% of school children actually revealed latent tuberculous disease in the lungs and bronchial glands when systematic X-ray examination was carried out. Some of the lesions were in the stage of caseous degenerations, and some had healed. These figures indicate the absolute necessity of systematic examination and of active therapeutic measures where indicated. The spread of the initial infiltration can only be checked by being alert to early diagnosis. Nevertheless it is difficult to fill children’s beds in the sanatorium ; rather the institution is overcrowded with cases for whom little or nothing can be done.

Health can best be guarded by a system of universal medical examinations at intervals. This is borne out to the full from statistics published by a well-known Life Assurance Company. In the interest of the community and to meet the immediate health requirements of those found to be tuberculous it should be legally possible to enforce a period of treatment. Even on a basis of three months treatment I am convinced many early cases would permanently benefit, whilst the others would derive great personal educational advantages of treatment at a time when the application of such rules of life would save many other victims. Of course to house all the tuberculous members of a community is a problem quite beyond the bounds of possibility, but the application of a short period of

residential treatment followed by supervision at the Tuberculosis Clinics should serve to bring under control and within limits of reasonable safety the activities of the tuberculous proportion of our population.

The origin and methods of infection are ill-understood and indeed but imperfectly known. On the other hand it is possible to formulate with some degree of accuracy what nature can do unaided, and how much may be done by medical assistance. Success or failure will depend on how far it is possible to detect, treat, and control the disease within these limits. At present to put it crudely the present campaign is to a large extent based on a patient's diagnosis of his own disease, and on his conception of his own necessities! Medical advice is too often ignored until a crisis is reached. In this way the demand for beds for bed-ridden, helpless, and advanced patients has exceeded the capacities up to the present available.

In my opinion and in the opinion of many others the chaos surrounding the subject of tuberculosis arises from the fact that we start off with patients in advanced stages of the disease. A panic then arises to be actually doing something and gives birth to such progeny as colonies for consumptives, vocational training, after care, etc., etc. In this way we are attempting or pretending to attempt to cure consumption which is absolutely and definitely incurable, and ignoring tuberculosis which is eminently curable. In this respect let me remind those not conversant with post-mortem pathology, that practically 100 per cent. of individuals dying from any cause show definite evidence of healed tuberculosis disease.

Finally, I should point out that the sanatorium is only the embodiment of those factors calculated to raise a patient's own defences. The treatment of many cases already analysed is simply carrying out a formality with the knowledge of failure behind it. The sanatorium, speaking generically, was never intended for this purpose, neither is the Belfast Municipal Sanatorium suited for it. The problem, therefore, is to decide whether our institution is to be a sanatorium or a hospital. As a sanatorium it is excellent: as a hospital for advanced cases it is structurally quite unsuitable, and if such cases are to be admitted in the numbers presenting themselves recently over any period of consequence very considerable extensions and alterations will be necessary.

The statement that our climate in Whiteabbey is unsuitable has more than once recently been made in certain quarters. Too much is made of climate. No climate will cure tuberculosis. After a very thorough investigation of this question I am compelled to re-iterate my previous assertion that tuberculous patients should be treated in the climate conditions that obtain where they are permanently resident. The minimum of artificial elements should be introduced. This is not a claim that a Belfast patient will do as well in Belfast as in Switzerland, but if he has to return to Belfast to follow his vocation of employment, his ultimate history will not supersede that of the patient treated in his own environment. Climate ranks among the secondary factors.

Again, to speak of cures at the end of a few weeks' or months' treatment in a sanatorium is not only illogical, it is flying colours under false pretences. I prefer to speak of the condition on discharge as the immediate result of treatment, and in this way the statistics in this report are set forth under the headings and terms as laid down by the Ministry of Health of England and Wales for the guidance of those responsible for similar institutions across the channel.

In conclusion the year has been one of progress. The routine work of the department has proceeded smoothly, and treatment has progressed along the lines usual in every properly organised institution for tuberculosis. The educational factor in addition is of great value and should bring its own reward in the cases of children and young adults. With regard to those suffering from chronic tuberculosis the old adage that "just as the blind have to learn to walk" holds good in so far that the "consumptive has to learn to live."

I have pleasure in expressing my sincere thanks for and appreciation of the very cordial encouragement which at all times I have been vouchsafed by the Chairman and Members of the Tuberculosis Committee.

To the Medical Superintendent Officer of Health I tender a very sincere acknowledgement for the whole hearted manner in which he has welcomed schemes for the betterment of the sanatorium and for the improvement of conditions of both patients and staff.

In conclusion it is my pleasant duty once more to acknowledge fully and generously the assistance of an efficient and conscientious staff. I would especially mention my medical colleagues, the matron, and the steward. To the sisters, staff nurses, and probationer nurses upon whose shoulders falls the brunt of the hard work of the day, I tender my best thanks.

I am,

Your obedient servant,

P. S. WALKER.

MUNICIPAL HOSPITAL FOR TUBERCULOUS CHILDREN,
BELFAST.

Report of the Visiting Surgeon.

TO THE MEDICAL SUPERINTENDENT OFFICER OF HEALTH.

DEAR DOCTOR THOMSON

I beg to submit my report on the Clinical Work at Graymount Hospital for the year 1931. I include a statement showing the cases admitted and the disease from which they were suffering, and a description in tabular form of the exact condition of each patient discharged, in the hope that this may perhaps be of some use later from a statistical point of view.

I have also endeavoured to trace patients discharged during previous years, from 1922, the year after the opening of the hospital.

One hundred and eleven old patients were written to and asked to attend for examination. Sixty-eight complied with this request. Sixty-one of these were found to have remained well. There were four cases of spinal disease in whom the deformity had recurred or increased, (Nos. 49, 89, 197 and 97). In one case disease of the knee had recurred, necessitating amputation, with a successful result (No. 172). Two cases, one of hip joint disease and one of knee disease, who were discharged as improved, had maintained the improvement and good general health, although the local condition was not completely cured (Nos. 4 and 58). The mother of one patient wrote to say that he had died of "rapid tubercle," in May, 1931 (No. 15).

Doctor Trimble kindly assisted by endeavouring to trace forty-two patients who did not report for examination. Many of these had been previously inspected at intervals after discharge and Dr. Trimble was successful in tracing twenty-three of them, but could not get any information about nineteen.

Of the twenty-three cases traced, seven are reported as being well, two as being well and at school, thirteen as being well and at work, and one as being unfit.

An analysis of the cases shows a death rate of 10.3%, some of the deaths having occurred after discharge.

It also shows that 1.4% were improved and 2.1% unimproved; that 5.4% relapsed and 80.7% had their disease arrested. The last figure may vary in the future as some of the cases included have only recently been discharged, but I think it may be taken as a fairly accurate estimate of the results. Some of the children naturally have stiff joints and some degree of shortening of a limb, which are essential results of the disease if at all advanced, but which should not prevent them from making a living.

I have the honour to be,

Your obedient servant,

H. P. MALCOLM,

Visiting Surgeon.

ADMISSIONS DURING 1931.

Twenty-four admissions are shown in the register for the year, six of these were re-admissions after temporary transfer to Purdysburn Fever Hospital. Of the eighteen new cases two were removed again by the parents after nine and four days respectively, and one admitted for observation was discharged after two months. Fifteen new patients were therefore retained for treatment.

Remained in Hospital on 1/1/31	..	..	57
Admitted during 1931	..	..	18
			75
Discharged during 1931	..	..	18
Remained in Hospital on 1/1/32	..	..	57

ADMISSIONS, 1931.

Spinal Caries	..	..	..	5
Hip Joint Disease	..	..	..	7
Knee	..	..	..	3
Multiple Abscesses	..	..	..	1
Ilium	..	..	..	1
Observation Case	..	..	..	1
				18

DISCHARGES DURING 1931.

Twenty-four patients were shown in the register as discharged during 1931, this number included six temporarily transferred to Purdysburn Fever Hospital and re-admitted to Graymount Hospital, the two patients removed by the parents and the patient retained two months for observation. Fifteen patients were therefore permanently discharged, of these two died, and thirteen were discharged as disease arrested.

Spine				
Disease Arrested	..	..	..	3
Died	..	..	..	1
Hip Joint				
Disease Arrested	..	..	..	9
Ankle Joint.				
Disease Arrested	..	..	..	1
Multiple				
Spine and Hip—Died	..	..	..	1
				15
Temporary Transfers	..	..	..	6
Removed contrary to advice	..	..	..	2
Observation Case	..	..	..	1
				24

The results of treatment and the condition of the patients discharged during 1931 are shown in the following tables :—

SPINAL CARIES.

Disease Arrested .. 3

Died .. 1

Reg. No.	Age on Admission	Sex.	No. of Days Treated.	Condition on Admission.	Cause of Discharge.	Condition on Discharge.
88	3 years	M.	2694	Extreme deformity lower cervical and upper dorsal spine. Neck invisible. Rickets.	Disease arrested.	Deformity slight. General condition fairly good, but is a poor subject and has bad home conditions.
85, 96, and 191	3 years	M.	(1)—35. (2)—872. (3)—1626.	Severe thoracic deformity.	(1)—Scarlet Fever. (2)—As disease arrested, but disease recurred. (3)—Disease arrested.	Deformity reduced to a slight roundness of back, is strong and well developed.
205	8 years	M.	1367	Lumbar caries and abscess.	Disease arrested.	In good general condition, slight lumbar kyphos, unnoticeable, and not disabling.
162	3 years 7 months	M.	1698	Severe thoracic deformity, legs paralysed.	Died.	

HIP JOINT.

Disease Arrested

.. 9

Reg. No.	Age on Admission.	Sex.	No. of Days Treated.	Condition on Admission.	Cause of Discharge.	Condition on Discharge.	Joint movement on discharge.
184, 263 & 272.	6 years 7 months	F.	(a)—1393. (b)—95. (c)—8.	Head of femur had disappeared and acetabulum was enlarged. Healed abscess.	(a)—Diphtheria. (b)—Diphtheria. (c)—Disease arrested.	1½ inches shortening due to lack of growth loss of head of bone and widening of acetabulum (not dislocated). General health good.	45° flexion and 30° abduction.
232	7 years	M.	718.	Hip rigid in slight abduction. Abscess after admission.	Disease arrested.	No deformity. No X-Ray change in bone. General health good.	Full movement.
179	7 years	M.	1646	Spasm right hip, and later marked erosion head of femur and acetabulum.	Disease arrested.	Hip ankylosed in extension and slight abduction. General health good.	None.
215	5 years 9 months	M.	1062	45° flexion and 45° abduction left hip. Abscess and sinus.	Disease arrested.	Abscess healed. Hip in optimum position, ½ inch shortening. General health good.	None.
193	4 years	F.	1482	1½ inches shortening.	Disease arrested.	Complete disappearance of head of femur, acetabulum widened. Not dislocated. 2½ inches shortening. General health good.	Hip ankylosed in extension and slight adduction.
194	14 years	F.	1504	1 inch shortening and marked spasm.	Disease arrested.	Absorption of head of femur, neck still in acetabulum. Instability of knee joint. Wearing celluloid knee splint. General health good.	Slight.
198	12 years 4 months	F.	1465	45° flexion and spasm right hip.	Disease arrested.	1 inch shortening due to lack of growth. Knee unstable, wearing celluloid knee splint.	45° movement.
216 & 224.	7 years 10 months	M.	68 & 1093	20° adduction, spasm right hip.	(1)—Diphtheria. (2)—Disease arrested.	Hip stiff in extension and slight abduction 1 inch shortening.	None.
134, 142 & 227.	4½ years	F.	(1) 41. (2) 1279. (3) 962.	50° flexion 20° adduction and 1 inch shortening (abscess after admission).	(1)—Diphtheria. (2)—Diphtheria. (3)—Disease arrested.	1½ inch shortening.	90° movement.

ANKLE JOINT.

Reg. No.	Age on Admission.	Sex.	No. of Days Treated.	Condition on Admission.	Cause of Discharge.	Condition on Discharge.
131	6 years	M.	2168	Severe arthritis right ankle with sinus.	Disease arrested.	Joint ankylosed at right angles. Sinus healed.

MULTIPLE.

Reg. No.	Age on Admission.	Sex.	No. of Days Treated.	Condition on Admission.	Cause of Discharge.
243	6 years 5 months	M.	403	Left hip joint disease with two sinuses. Spinal Caries. General condition bad.	Died. Amyloid Disease.

OTHER CASES.

Reg. No.	Age on Admission.	Sex.	No. of Days Treated.	Condition on Admission.	Cause of Discharge.
274	10 years	M.	60	Pes Valgus ? T.B.	No evidence of T.B. developed, fitted with surgical boots and discharged. Full movement of foot.
264	5 years 3 months	M.	9	Disease of left ilium, probably healed.	Removed by parents.
275	12 years	M.	4	Hip joint disease.	Removed by parents.

MINOR OPERATIONS.

Aspiration	..	..	5
Drainage of abscess	..	..	2

INFECTIOUS DISEASES.

The following infectious diseases occurred during the year. There was no mortality—

Diphtheria	..	..	6
Ringworm	..	..	13
Chickenpox	..	..	2

DENTAL TREATMENT.

Treatments	..	..	476
Fillings	..	..	190
Dressings	..	..	262
Extractions	..	..	24

SUMMARY AND AFTER HISTORY OF TUBERCULOUS PATIENTS DISCHARGED FROM 1921 TILL 31st DECEMBER, 1931.

Reg. No.	Sex.	Age on Admission.	No. of days Treated	Date of Discharge.	Date Last Inspection.	Situation of Disease.	Condition at last Inspection—Remarks.
5	M.	6 years	363	31/5/22	—	Spine	Incurable deformity. Not followed up.
34	F.	6 years	63	16/2/22	—	Spine	Died. Paralysis.
25	F.	4 years, 2 months	671	11/7/23	28/11/31	Spine	Quite well, with no deformity. A normal girl.
14 & 48	M.	7 years	762	1/7/23	28/11/31	Spine	Quite well. No disability.
21	M.	1 year, 10 months	1212	21/11/24	—	Spine	Died in Sanatorium, November, 1929.
43	F.	10 years	1005	12/11/24	28/11/31	Spine	Quite well. Small deformity, X-Ray on 3/12/31 showed complete consolidation. No disability.
62	F.	15 years	866	12/11/24	28/11/31	Spine	A well developed healthy young woman with no deformity.
81	M.	11 years, 9 months	401	7/5/24	28/11/31	Spine	Quite well. No deformity.
101	M.	6 years, 6 months	20	6/2/24	—	Spine	Died Meningitis.
35	F.	4 years, 6 months	1223	28/4/25	28/11/31	Spine	Quite well. Small lumbar deformity, unnoticeable when dressed.
87	F.	14 years	689	21/7/25	10/3/28	Spine	Died January, 1929
52 & 148	M.	2 years	1439	13/4/26	28/11/31	Spine	Quite well. No Deformity.

SUMMARY AND AFTER HISTORY OF TUBERCULOUS PATIENTS DISCHARGED FROM 1921 TO 31st DECEMBER, 1931—(Continued)

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition at last Inspection—Remarks.
85, 96 & 191	M.	3 years	35, 872 & 626	4/5/26 18/11/31	—	Spine	Discharged 1926, as "Disease arrested," Recurrence and re-admission 1927. Again discharged "disease arrested," in 1931.
49	M.	5 years, 8 months	1569	26/6/26	28/11/31	Spine	Marked deformity. Health good.
89	M.	6 years	1163	6/11/26	28/11/31	Spine	Not doing well. Deformity increased and general health poor.
145	M.	2 years 6 months	200	19/8/26	—	Spine	Died. Meningitis.
111 132 & 151	F.	3 years	1217	30/2/27	28/11/31	Spine	Twice discharged on account of infectious disease. Quite well. No Deformity.
93 & 149	F.	4 years	1405	6/9/27	9/1/32	Spine	Being maintained in Cripples' Home, Bangor, Matron on telephone says child is quite well with no deformity.
169	F.	5 years, 6 months	397	28/9/27	—	Spine	Removed by parents before disease arrested.
79 & 178	M.	4 years	1356 & 690	5/11/28	15/2/30	Spine	In 1932, C.T.O. reports "Patient walking much better and attending school. Much improved."
97, 127 & 150	M.	3 years	1773	22/5/29	28/11/31	Spine	Deformity recurring.
2	F.	5 years	2950	23/6/29	28/11/31	Spine	Strong and well with no deformity.
139	M.	5 years, 6 months	1485	13/9/29	—	Spine	Could not be traced. Discharged "disease arrested."
164	F.	5 years	1206	17/10/29	—	Spine	Admitted to Sanatorium 3/11/30 with disease active again.
180	M.	8 years	928	21/7/29	28/11/31	Spine	Quite well, with no deformity.
256	M.	2 years, 7 months	20	11/12/30	—	Spine	Died.
197	F.	12 years	1132	19/11/30	12/12/31	Spine	Severe deformity on admission, improved, relapsed again after discharge. Deformity incurable although disease arrested.
190	M.	9 years	1158	4/8/30	12/12/31	Spine	Quite well. No deformity.

SUMMARY AND AFTER HISTORY OF TUBERCULOUS PATIENTS DISCHARGED FROM 1921 TO 31st DECEMBER, 1931—(Continued)

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition at last Inspection—Remarks.
176	M.	3 years	1419	22/10/30	—	Spine	Did not report.
173 & 160	M.	2 years, 6 months	1518	5/12/30	12/12/31	Spine	Quite well. Deformity slight, unnoticeable.
153	M.	8 years	1646	19/9/30	7/12/31	Spine	Spine well, general health good; swelling of ankle; pes valgus.
245 & 147	F.	5 years	1464 & 268	19/11/30	12/12/31	Spine	Quite well. Spine a little rounded but not deformed.
88	M.	3 years	2694	11/2/31	—	Spine	On discharge, disease arrested (see back).
85, 96, & 191	M.	3 years	35, 872, & 1626	18/11/31	—	Spine	On discharge, disease arrested (see back).
205	M.	8 years	1367	19/11/31	—	Spine	On discharge, disease arrested (see back).
162	M.	3 years, 7 months	1698	21/2/31	—	Spine	Died.
17	F.	10 years, 8 months	308	30/5/22	17/3/28	Hip	17/3/28 Quite well. Full movement.
26	F.	13 years, 11 months	128	4/1/22	20/4/28	Hip	Quite well. Did not report since 1928.
56 & 158	F.	8 years	123 & 1254	11/9/22 & 28/9/29	—	Hip	Removed by parents, relapsed. Re-admitted and again removed by parents in an incurable condition.
15	M.	14 years	272	16/4/22	1/2/30	Hip	Was well at last inspection, but mother has written to say he died in May, 1931, of rapid tubercle.
6	M.	11 years	348	16/5/22	—	Hip	Discharged as incurable, died of amyloid disease.
41	M.	7 years	700	29/12/23	17/3/28	Hip	Quite well. Full movement. Now lost sight of.
47	F.	12 years	571	24/9/23	15/12/31	Hip	Wrote to say she is quite well, standing all day long and weighing 11st. 5 lbs. Has no trouble with hip.
50	F.	14 years	568	1/10/23	—/6/26	Hip	Was then quite well, married with one child. Now cannot be traced.
54	F.	13 years, 5 months	507	24/9/23	26/10/29	Hip	Was then quite well. In 1932 reported quite well.

SUMMARY AND AFTER HISTORY OF TUBERCULOUS PATIENTS DISCHARGED FROM 1921 TO 31st DECEMBER, 1931—(Continued)

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition at last Inspection—Remarks
69	F.	13 years	387	11/9/23	12/12/31	Hip	Quite well. Married. Full movement, no disability.
78	F.	8 years	76	10/4/23	—	Hip	Incurable deformity, no active disease, not followed up.
30	M.	4 years	894	7/5/24	28/11/31	Hip	Quite well. Full movement, no deformity.
40	M.	8 years, 9 months	838	7/5/24	28/11/31	Hip	Quite well. Full movement, 1½ inches shortening, but wears a raised heel and has no disability. At work as a painter.
66	F.	8 years	781	3/9/24	28/11/31	Hip	Quite well. Full movement, no shortening.
57	F.	9 years	1283	25/11/25	19/1/32	Hip	C.T.O. reports, now feeling well, greatly improved in health generally.
84	M.	8 years	766	4/8/25	28/11/31	Hip	Quite well, full movement, no shortening.
76	M.	10 years	1009	1/8/25	19/1/32	Hip	C.T.O. reports : " Able to cycle, to work every day, leg a little short."
109	F.	11 years	526	31/11/25	19/1/32	Hip	C.T.O. reports : " Working as a stitcher, looking and feeling well."
108	F.	11 years	430	12/8/25	—	Hip	Hip kept well. Died 1927 from acute appendicitis.
90	M.	7 years	916	13/4/26	28/11/31	Hip	Quite well, full movement, no shortening.
117 & 155	F.	11 years, 4 months	544	13/4/26	28/11/31	Hip	Quite well, full movement, no shortening.
27	F.	13 years, 2 months	2225	6/10/27	25/1/32	Hip	Quite well, hip stiff in optimum position, with 1 inch shortening. Practically no disability.
58	M.	5 years	2366	14/12/28	5/12/31	Hip	Still has one sinus. Is healthy and strong. Hip adducted, will require operation later.
116	F.	7 years, 6 months	1430	16/9/28	5/12/31	Hip	Healthy looking girl. Hip stiff in optimum position with 1 inch shortening.
119	F.	9 years	1334	25/7/28	19/1/32	Hip	C.T.O. reports : " Working every day as a shop girl, looks fine healthy girl."
182 & 168	F.	3 years 9 months	70 & 503	19/5/28	19/1/32	Hip	C.T.O. reports : " Doing well."

SUMMARY AND AFTER HISTORY OF TUBERCULOUS PATIENTS DISCHARGED FROM 1921 TO 31st DECEMBER, 1931—(Continued)

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition at last Inspection—Remarks.
196	M.	8 years	87	5/2/28	—	Hip	Removed by parents before treatment could be effective.
204	F.	6 years	20	13/2/28	—	Hip	Removed by parents.
208	F.	12 years	6	1/6/28	—	Hip	Removed by parents.
124	M.	5 years	1602	7/6/29	11/12/31	Hip	Quite well. Hip stiff in optimum position. $\frac{3}{4}$ -inch shortening.
181	M.	14 years	1115	1/2/30	12/12/31	Hip	Quite well. Right hip ankylosed in optimum position with 1 inch shortening. Left hip has very little movement, following fracture. Considerably disabled. Studying music.
125	M.	9 years	1947	5/6/30	11/12/31	Hip	General health excellent. Hip well, stiff in optimum position with 2 inches shortening. Disease cured but is deformed by scoliosis.
184, 263, & 272	F.	6 years, 7 months	1393, 95, & 8	27/8/31	—	Hip	Discharged, "disease arrested."
232	M.	7 years	718	19/6/31	11/12/31	Hip	Quite well. Full movement.
179	M.	7 years	1646	24/6/31	12/10/31	Hip	Quite well. 12/10/31.
215	M.	5 years 9 months	1062	29/9/31	12/11/31	Hip	Keeping well.
193	F.	4 years	1482	29/9/31	—	Hip	Discharged, as "disease arrested."
194	F.	14 years	1504	22/10/31	—	Hip	Discharged as "disease arrested."
198	F.	12 years, 4 months	1465	22/10/31	—	Hip	Discharged as "disease arrested."
216 & 224	M.	7 years 10 months	68 & 1093	28/11/31	—	Hip	Discharged as "disease arrested." Well on 31/12/31.
134, 142 & 227	F.	4 years, 6 months	41, 1279 & 962	4/12/31	—	Hip	Discharged as "disease arrested."
7 & 72	F.	11 years, 9 months	300 & 1547	24/12/26	5/12/31	Knee	A stout healthy looking woman, 45° movement in knee, says it gives her no trouble.

SUMMARY AND AFTER HISTORY OF TUBERCULOUS PATIENTS DISCHARGED FROM 1921 TO 31st DECEMBER, 1931—(Continued)

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition at last Inspection—Remarks.
4	M.	13 years, 6 months	681	14/4/23	5/12/31	Knee	Discharged as "improved." Knee now ankylosed in straight position, $3\frac{1}{2}$ inches shortening. One sinus still open. Walks well with raised heel. General health excellent.
18	M.	15 years, 6 months	803	8/10/23	29/1/30	Knee	Quite well with stiff knee, 1932, C.T.O. reports : "Working and doing well."
22	M.	2 years, 9 months	540	25/2/23	19/1/32	Knee	C.T.O. reports : "Doing well."
28	M.	5 years, 5 months	603	5/6/23	19/1/32	Knee	C.T.O. reports : "Working and could not attend."
67	F.	15 years	526	29/12/23	5/12/31	Knee	Quite well. Full movement.
70	F.	12 years	485	29/12/23	5/12/31	Knee	Normal knee. Full movement.
37	F.	15 years, 9 months	1013	8/10/24	19/1/32	Knee	C.T.O. reports : "Working as shop assistant, looking and feeling well."
16	M.	5 years	1474	21/7/25	19/1/32	Knee	C.T.O. reports : "Working and keeping well."
73	F.	6 years, 9 months	1026	21/7/25	5/12/31	Knee	Looks quite well. No sign of disease in knee. 90° movement. Has knock knee which can be treated by operation.
112 & 140	M.	4 years, 5 months	735	13/9/26	5/12/31	Knee	Quite well, 120° movement. $\frac{3}{8}$ -inch lengthening.
104 & 138	M.	4 years	1356	5/12/27	—	Knee	Discharged "disease arrested," cannot be traced.
80	F.	2 years, 6 months	1690	5/12/27	15/2/30	Knee	Quite well, with stiff knee.
71 & 141	M.	3 years, 5 months	1896	23/11/27	5/12/31	Knee	Quite well. Knee stiff in slight flexion. $\frac{3}{4}$ -inch shortening.
42, 135 & 154	M.	5 years	730, 194 & 123	25/7/28	5/12/31	Knee	Quite well. Knee stiff in extension. No shortening.
171	M.	5 years, 9 months	820	13/12/28	—	Knee	Recurred 20/7/31 admitted Sanatorium, and discharged 7/12/31.
45 & 177	M.	5 years, 6 months	2678	13/12/28	11/12/31	Knee	Quite well. 15° movement. No shortening.

SUMMARY AND AFTER HISTORY OF TUBERCULOUS PATIENTS DISCHARGED FROM 1921 TO 31st DECEMBER, 1931—(Continued)

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition at last Inspection—Remarks.
82	F.	7 years	1978	28/10/28	5/12/31	Knee	Quite well. 15° movement. $\frac{1}{2}$ -inch shortening.
203	F.	6 years	327	3/12/28	—	Knee	Died. Meningitis.
110	M.	3 years	1915	26/8/29	—	Knee	At present in Whiteabbey Sanatorium.
172	M.	10 years	974	16/5/29	5/12/31	Knee	Recurred. Amputation in 1930.
188	M.	5 years, 6 months	912	25/11/29	25/1/32	Knee	Quite well. 90° movement. No disability.
242	F.	5 years, 9 months	7	7/2/30	—	Knee	Removed by parents.
206	M.	13 years	881	22/10/30	—	Knee	Amputation through thigh. Discharged cured.
1	F.	6 years	321	12/4/22	5/12/31	Great Toe	Quite well. No disability.
3	F.	6 years	466	11/9/22	5/12/31	Great Toe and Metatarsal.	Quite well. No disability.
11	F.	6 years, 11 months	814	15/9/23	19/1/32	Great Toe and Os Calcis	C.T.O. reports: "Working as weaver, keeping well."
77	M.	9 years	429	29/12/23	19/1/32	Great Toe	C.T.O. reports: "Working every day, no disability."
59	M.	13 years, 9 months	1034	21/4/25	30/11/31	All bones of left foot	Cured by amputation, has remained well.
86 & 66	F.	2 years	867	31/12/26	—	Astragalus	Emigrated to Australia 5 years ago.
122	M.	6 years	445	2/3/26	19/1/32	Great Toe	C.T.O. reports: "At school every day and doing well."
128	F.	11 years	455	29/7/26	19/1/32	Great Toe	C.T.O. reports: "At school; working and doing well."
114	M.	3 years, 8 months	962	26/5/27	19/1/32	Tarsus	C.T.O. reports: "Foot quite well, treatment appears to have been very successful."
126	M.	11 years	811	2/5/27	—	Os Calcis	On 6/12/31 letter from parents to say "he is in Canada, doing well."
19	F.	4 years	1191	15/10/24	19/1/32	Ankle	C.T.O. reports: "Looks well and is in best of health."
53 & 152	F.	4 years	893 & 505	29/8/27	12/12/31	Ankle	Quite well. Good movement, no disability.

SUMMARY AND AFTER HISTORY OF TUBERCULOUS PATIENTS DISCHARGED FROM 1921 TO 31st DECEMBER, 1931—(Continued)

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition at last Inspection—Remarks.
120	F.	6 years, 8 months	756	14/12/26	—	Ankle	Cannot be traced.
133	F.	3 years	417	13/9/26	23/4/27	Ankle	Quite well. Full movement, Did not report 1931.
115	F.	9 years	1067	29/8/27	15/2/30	Ankle	Quite well. Full movement, Did not report 1931.
200	M.	3 years	743	20/12/29	12/12/31	Ankle	Quite well. Full movement.
157	F.	5 years	1225	28/1/29	12/12/31	Ankle	Quite well. Ankylosed in optimum position.
237	M.	9 years, 11 months	254	18/6/30	12/12/31	Ankle	Quite well. Full movement.
131	M.	6 years	2168	19/5/31	11/12/31	Ankle	Quite well. Ankylosed at right angles.
75	M.	8 years	353	1/10/23	12/12/31	Elbow	Quite well. Full movement.
137	M.	2 years	468	16/12/26	12/12/31	Metacarpal and Finger	Quite well. Full movement. No deformity.
12	F.	13 years	363	31/5/22	—	Glands	Did not report, was well in 1926.
32	M.	10 years	125	12/4/22	19/1/32	Glands	Reported to be working and doing well.
51	M.	11 years	240	11/11/22	19/1/32	Multiple, Femur and Radius.	C.T.O. reports: "Working every day and in good health."
23	M.	3 years, 11 months	655	27/6/23	—	Hip and Glands	Died 22/4/26 of "stomach trouble."
83	M.	10 years	505	8/10/24	19/1/32	Os Calcis, Tibia and cuboid.	C.T.O. reports: "Doing well at work in B.O.C."
106	F.	12 years, 6 months	635	25/11/25	12/12/31	Hip and Glands	Quite well. Full movement.
10	F.	8 years	1894	31/8/26	12/12/31	Hip, Spine, Finger, and Skin	Quite well. Spine shows no deformity. Hip has full movement with 2 inches shortening. No dislocation.
129	F.	1 year, 11 months	560	16/11/26	—	Glands and Finger	Cannot be traced.
136	M.	9 years, 6 months	240	16/11/26	12/12/31	Glands and Ankle	Quite well. Some movement ankle. No disability.
44	F.	13 years	2050	6/10/27	12/12/31	Spine, Hip, Pleura	Quite well. No deformity spine. Full movement hip with no shortening. Married and has a boy sixteen months old.

SUMMARY AND AFTER HISTORY OF TUBERCULOUS PATIENTS DISCHARGED FROM 1921 TO 31st DECEMBER, 1931—(Continued)

Reg. No.	Sex.	Age on Admission.	No. of Days Treated.	Date of Discharge.	Date of Last Inspection.	Situation of Disease.	Condition of last Inspection—Remarks
187	M.	3 years, 5 months	219	13/12/27	—	Spine and Peritoneum	Died.
31	F.	13 years	2135	6/10/27	12/12/31	Knee and Spine	Quite well. Knee stiff in straight position with no shortening. No deformity spine.
33	M.	6 years	2345	19/5/28	11/12/31	Rib and Hip	Quite well. Hip stiff in straight position with $\frac{1}{2}$ -inch shortening.
183	M.	8 years	379	27/9/28	15/2/30	T.B. Knee and Congenital disease.	Quite well. Knee stiff in optimum position.
189	F.	5 years, 6 months	358	24/5/28	—	Hip and Peritoneum	Died.
195	M.	4 years	454	31/12/28	12/12/31	Both Great Toes	Quite well. No disability.
185	F.	11 years	358	19/5/28	11/12/31	Finger and Thigh	Quite well with a little deformity of finger.
209	M.	11 months	568	20/12/29	—	Finger and Lumber Abscesses.	14/12/31 mother wrote to say "he is a fine healthy child."
219	F.	11 years	56	5/2/29	—	Sacro-iliac and Phthisis	Died shortly after discharge.
235	M.	2 years, 7 months	19	21/9/29	—	Spine and Forearm	Died Meningitis.
236	M.	1 year, 9 months	374	30/9/30	12/12/31	Metacarpals	Quite well. No disability.
170	M.	6 years	1379	24/6/30	11/12/31	Lumbar caries. Suppurating cervical glands. Congenital disease.	Quite well. No deformity.
163	M.	12 years	1428	27/5/30	12/12/31	Abscess R. 6th Rib. Hip joint, with abscess.	Quite well. $\frac{3}{4}$ -inch shortening 15° movement.
243	M.	6 years, 5 months	403	17/3/31	—	Spine, Hip	Died amyloid disease.
105	F.	7 years, 5 months	168	22/8/24	12/12/31	Prepatellar Bursa	Quite well. Full movement.
95	F.	14 years	579	31/12/24	12/12/31	Sacro-iliac	Quite well. No disability.
99	M.	11 years	229	3/9/24	1/2/30	Rib	Quite well
24	M.	1 year, 10 months	252	1/10/23	—	Tibia	Quite well 1/8/25. Cannot be traced.

NON-TUBERCULOUS CASES.

Reg. No.	Year	Disease	Remarks
13	1922	Spinal deformity due to rickets.	Cured.
20	1922	Paralytic Scoliosis.	Incurable.
36	1922	Progressive Muscular Atrophy.	Discharged after 27 days, no change.
38	1922	Congenital Syphilis.	Disease arrested.
55	1922	Multiple Streptococcal infection, joints.	Died.
46	1923	Scoliosis.	Deformity reduced. Relapsed after discharged.
60	1923	Perthes disease.	Cured.
94	1926	Angioma foot, eroding bones.	Operation. Improved.
118	1926	Perthes disease.	Cured.

ANALYSIS OF TUBERCULOUS PATIENTS DISCHARGED 1922-1931.
(EXCLUDING PATIENTS REMOVED BY PARENTS).

Situation of Disease	Disease Arrested	Improved	Unimproved	Relapsed	Died	Total	Remarks.
Spine ..	23	..	1	5	6	35	Of the 5 cases under "relapse" 2 are well but with increased deformity. In 3 disease recurred. 2 by amputation. 1 by amputation.
Hip ..	33	1	2	..	2	38	
Knee ..	18	1	..	3	1	23	
Foot Bones ..	10	..	..	..	..	10	
Ankle ..	9	..	..	..	..	9	
Elbow ..	1	..	..	..	..	1	
Hand ..	1	..	..	..	..	1	
Glands ..	2	..	..	..	..	2	
Bursa ..	1	..	..	..	..	1	
Sacro-iliac ..	1	..	..	..	..	1	
Ribs ..	1	..	..	..	..	1	
Tibia ..	1	..	..	..	..	1	
Multiple ..	16	..	..	..	6	22	
	117	2	3	8	15	145	

AFTER HISTORY OF CASES SHOWN AS "DISEASE ARRESTED."

SHOWN AS "DISEASE ARRESTED."	THESE CASES WERE KNOWN TO BE WELL AFTER A LAPSE OF										Remarks
	Under 1 year	Between 1 and 2 years	Between 2 and 3 years	Between 3 and 4 years	Between 4 and 5 years	Between 5 and 6 years	Between 6 and 7 years	Between 7 and 8 years	Between 8 and 9 years	Between 9 and 10 years	
Spine	4	5	2	..	2	2	1	3	2	..	2 cannot be traced
Hip	9	2	2	2	3	4	4	4	2	..	1 died of acute ap- pendicitis. Hip was well.
Knee	..	1	3	3	2	1	3	3	2	..	1 emigrated.
Foot Bones	..	..	..	..	1	3	1	..	2	2	1 cannot be traced.
Ankle	2	2	2	..	1	..	..	1	..	..	1 cannot be traced.
Elbow	..	..	..	..	..	..	..	1	..	..	1 cannot be traced.
Hand	..	..	..	..	1	..	..	..	..	..	1 cannot be traced.
Glands	..	..	..	..	..	..	..	..	1	..	1 cannot be traced.
Bursa	..	..	..	..	..	..	..	1	..	..	
Sacro-iliac	..	..	..	..	..	..	1	..	..	..	
Ribs	..	..	..	..	..	1	..	..	..	..	
Tibia	..	1	..	..	..	..	..	..	..	..	
Multiple	..	6	..	2	2	2	1	1	..	1	1 cannot be traced.
TOTAL	15	17	9	7	12	13	11	14	9	3	and 7=117

THE HYGIENE OF BELFAST PUBLIC SWIMMING BATHS.

The importance of the sanitation and hygienic control of public swimming baths cannot be overestimated, since there is a possibility of danger resulting from the use of the bathing pools by persons suffering from infectious diseases. Fortunately, the methods at our disposal for the scientific purification of swimming pond water have reached a high stage of perfection and we are able to maintain the bacteriological purity of the water at a safe standard even during the time when the pools are more or less crowded.

According to Houston most of the disease producing bacteria do not survive long in water; unfortunately, intestinal bacteria are able to survive for a much longer period, and it is usual to take the intestinal organism—*Bacillus Coli*—as the indicator as to the stage of purity of the water. Since, however, bacteria flourish in water which contains organic impurities, a bacterial count will give an indication as to the amount of such impurities. Some bacteriologists make use of the occurrence of *Streptococci* as an indicator of the impurity of the water.

With regard to the standards of bacteriological purity we have adopted those of the U.S.A. Commission, viz., "not more than two out of five 10 c.c. samples collected on the same day shall show a positive presumptive test for *B. Coli*, and not more than ten per cent of samples covering any three months' period shall contain more than 500 bacterial colonies per cubic centimetre when incubated for 24 hours at 37°C. on an agar or litmus lactose agar medium."

In a report on "The Hygiene of Swimming Baths Water with special reference to the Belfast Baths," which I made in October, 1929, to the Baths and Lodging House Committee, I indicated the possible sources of contamination and I made several recommendations with a view to bringing the Belfast Baths up to the standard of modern hygienic requirements. I am pleased to state that the Committee acted upon the recommendations and we have now installed in the three larger baths, namely, Ormeau Avenue, Templemore Avenue and Falls Road Baths up-to-date purification apparatus, and I am also pleased to be able to report that judging by the bacteriological tests these purification plants have given complete satisfaction.

At these baths a continuously circulating system of purification is adopted, the rate of circulation being adjusted to meet the varying bathing load of the swimming pools.

The system at each bath briefly is as follows:—The outlet pipe from the swimming pond is situated at the deepest end and suction piping runs from this point to the flange of a circulating water pump which is fitted with a strainer basket for the retention of coarse suspended particles such as hairs, fibres of clothing etc. The water delivered by the pump is continuously treated with "Alumino-ferric" and soda ash for the coagulation of the organic impurities and the subsequent formation of an artificial "Vital" layer on the surface of the sand filter.

Two types of sand filters are in use (a) Royle's patent and (b) The "Turnover" filter. Both of these filters give satisfactory results in filtration. The filtered water is aerated in an enclosed type aerator, and before delivery to the pond it is chlorinated by the continuous application of chlorine from a Chlorinometer; the chlorine is applied at such a rate as to give .2 parts of free chlorine per millions parts of water in the pond. The chlorine content of the water can easily be estimated by a colorimeter test, orthotolidine being used as the indicator. The reaction of the water is also easily controlled by frequent testing with Methyl Orange.

Whilst satisfactory results can be obtained in the purification of swimming ponds the supervision of the bathers is of great importance and should not be overlooked. No person should be allowed to use the baths who is suffering from skin eruptions or with open wounds or bandages. It cannot be expected that

bath attendants will recognise persons suffering from infectious diseases especially Tuberculosis, but it is felt that the risk of infection from these, even if they occasionally made use of the baths, must be somewhat remote.

Foot baths and shower baths for the use of bathers before entering the swimming ponds are very useful and there should not be any great difficulty in insisting that any person who shows obvious signs of dirty feet etc., should have a preliminary foot bath or shower bath as the case demands.

Bathing suits and towels should be made of suitable material and should be thoroughly washed after use as is done in the laundries attached to the Belfast Public Baths.

In view of the increased demand for swimming facilities and the present popularity of public swimming baths I feel that the safety of the bathers from the public health point of view should be safeguarded by the employment of up-to-date purification plants at all public baths, and in this connection I am hopeful that similar plant will be installed at the Peter's Hill Public Baths in the near future.

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